DOCUMENT RESUME

ED 209 270 TM 810 763

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TITLE The Ethnic Representation of Special Education Referrals, Classifications and Placements in New York City. Evaluation Report.
INSTITUTION New York City Board of Education, Brooklyn, N.Y. Office of Educational Evaluation.
PUB DATE Jul 80
NOTE 109p.

EDRS PRICE MF01/PC05 Plus Postage.
DESCRIPTORS *Disabilities; Elementary Education; Emotional Disturbances; *Ethnic Distribution; Mainstreaming; Mild Mental Retardation; *Minority Group Children; Neurological Impairments; Program Evaluation; *Racial Discrimination; *Special Education; *Student Placement
IDENTIFIERS Education for All Handicapped Children Act; *New York City Board of Education

ABSTRACT

The evaluation of the influence of bias upon the referral, evaluation and placement (REP) process of placing handicapped children in special education programs was discussed. The representativeness of children referred for Committees on the Handicapped (COH) evaluation; social-demographic and administrative variables related to referral rates at the school level; and representativeness of the population of pupils placed in publicly funded private programs for the handicapped were examined. Hispanics and blacks were found to be discriminated against in public funding for private school placement. Examination of the policies that determine a student's qualifications for public funding would be the most cost effective remedy to reduce representational discrepancies in the REP process. Referral to COH was found to be predominantly disciplinary among blacks, while for whites it was learning problems. The existence of remedial and supplementary programs at the local school level would reduce non-essential labeling and segregation of children. The addition of bilingual staff would reduce representational disparities in public school special education. Ethnic disparity in granting of contract aid accounted for the discrepancies in ethnic representation of public school handicapped programs. (DWH)

OEE Evaluation Report

EVALUATION REPORT

THE ETHNIC REPRESENTATION OF SPECIAL EDUCATION REFERRALS, CLASSIFICATIONS AND PLACEMENTS IN NEW YORK CITY

JULY, 1980

A Report Prepared by the OEE

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OVERVIEW

Project REP's Nondiscriminatory Assessment Component was funded in March 1979 to investigate and suggest procedural changes for the alleviation of possible bias in the referral, evaluation and placement (REP) of handicapped children in the New York City School System.

Investigating the influence of bias upon the REP process involves determining whether (1) minority groups are over- or underrepresented in special education programs, (2) these discrepancies are greater than would be expected by chance, and (3) these statistically significant discrepancies are a function of some identifiable, observable procedure or action in the REP system. That is, just demonstrating that there is a discrepancy between a minority group's incidence in the total school population and their representation in a particular program for the handicapped is not sufficient evidence to prove bias. Two additional criteria must be met. Firstly, to prove that the observed discrepancy is not the result of random fluctuations in the representation of a group among various samples of a population, it must be demonstrated that the discrepancy is statistically significant. Secondly, the cause of the observed, significant discrepancy must be a direct action of the system. It is possible that such a discrepancy may result from the covariation between minority group membership and factors which are causally related to the handicapping condition--e.g., poverty, poor pre-, peri- and postnatal care, substandard housing, etc. Therefore, in order for the existence of bias to be substantiated it must be empirically demonstrated that the significant over- or underrepresentation which was observed is attributable to policies or procedures which unfairly or differentially treat individuals on the basis of their group membership.

The investigation which is reported in this paper addressed the first two of the aforementioned criteria -- the observation of the over- or underrepresentation of minority groups in special education programs and the determination of whether these discrepancies were statisically significant. It was a methodological precursor to a subsequent investigation which addressed the third and most integral criterion -- the system procedures and/or policies, if any, responsible for the significant discrepancies. The present study identified those specific programs and districts which warranted more intensive study. Moreover, it was an attempt to identify the stage in the REP process -- referral, evaluation leading to classification or placement -- most responsible for significant minority over- or underrepresentation. The present investigation also included an ancillary study designed to determine the factors which were associated with the variance in referral rates among schools. That is, this study was designed to determine whether systematic differences existed between schools which had higher than average referral rates and those whose rates were below the mean. The character of the descriptive school variables which were significantly related to referral rates suggested whether these relationships reflected bias in the decision to refer a child for C.O.H. evaluation.

The major findings of this investigation are:

- Although disproportionate ethnic representation may characterize the referral process in specific districts, citywide referrals to CoH were ethnically proportionate.
- Blacks were highly overrepresented in public school special education programs for the emotionally handicapped and neurologically impaired-emotionally handicapped.
- Blacks were overrepresented to a more moderate degree in the public school programs for the educable mentally retarded; whites were highly underrepresented.

- Although the SLD Resource Room Program was observed to have an approximately appropriate representation of blacks, Hispanics were underrepresented.

- Whites were highly overrepresented in publicly funded private school programs for the handicapped, Hispanics and blacks were highly underrepresented. This disparity in the ethnic representation of private school placement seems to have accounted for practically all of the differential representation between whites and blacks in public school programs for the emotionally handicapped and a major portion of the discrepancy in public school programs for the educable mentally retarded.

- Hispanics were more severly underrepresented in private school placements than blacks.

- Schools with high referral rates to the Committees on the Handicapped (COH), as compared to those with low referral rates, had: lower average registers, class sizes, and percentages of utilization; higher admissions rates; and fewer students reading 2 or more years below grade level. Ethnic composition and socioeconomic status were not related to referral rate.

These findings lead to the recommendation that to reduce the overrepresentation of minority students in public school special education programs in the most expeditious, cost-effective manner, special education policy decision-makers ought to explore ways to reduce the ethnic disparity in publicly funded private school special education programs.

Additional recommendations include: the proliferation of generic resource rooms; the hiring of bilingual/ESL staff for resource rooms in districts observed to have an underrepresentation of Hispanics in the SLD Resource Room Program; the promulgation of more definite standards used to determine the service needs of children classified as emotionally handicapped and neurologically impaired-emotionally handicapped; the further investigation of the COH decision-making process; consideration of the environmental context of the referring school as data in the C.O.H. assessment and decision-making process.

It should be noted that the investigation was focussed upon the Division of Special Education (DSE) in New York City during the period January - October 1979. Since that time the DSE has been in a state of transition and has developed a new model designed to ameliorate many of the problems which were studied. Reference to this transitional model and how it relates to the findings of this investigation have been made in the appropriate sections throughout the report.

RATIONALE

Policies affecting educational practices are influenced directly by legislation and court decisions. These statutes and judgments arise from certain basic principles set out in the United States Constitution. Specifically, they arise from the fifth amendment which guarantees due process of law and the fourteenth amendment which guarantees all citizens equal protection under the law.

Several decisions arising in the late sixties and early seventies (PARC v Pennsylvania State Board of Education, Mills v Board of Eduacation of District of Columbia, NYARC v Rockfeller) established the standard that once a state provided an education to any of its children, it must provide education to all of its children, whether they were handicapped or not. This position became federal legislation with the passage in 1975 of the Education for All Handicapped Children Act (PL 94-142). Although this act applies to all handicapped children, it also was concerned specifically with the rights of handicapped children who belonged to minority groups. Consequently, certain regulations implementing the law dealt directly with the rights of minority handicapped children. For example, Subpart E, Procedural Safeguards, Section 121a 530(b) of the Federal Regulations states:

> "Testing and evaluation materials used for purposes of evaluation and placement must be selected and administered so as not to be racially or culturally discriminatory."

That discrimination was perceived to exist is evidenced by the amount of litigation which has arisen in the area. Court cases have further defined and clarified the issues involved in serving minority handicapped children

and led to specific requirements which affect education policy.

A case which had a significant impact on policies regarding nondiscriminatory practices is Diana v. California State Board of Education (1970). The plaintiffs argued that Mexican-American public school children had been improperly placed in classes for the mentally retarded on the basis of inappropriate assessment measures. Litigation was initiated when a significant disparity between the percentage of Mexican-American students in regular classes and that for the educable mentally retarded (EMR) was observed. The out-of-court settlement resulted in the defendants assuming responsibility for the establishment of separate Mexican-American norms for all existing assessment instruments as well as an assessment policy that would insure that all Mexican-American children would be assessed in both their primary language and English.

Another class action suit, Larry P. v. Riles (1970), was brought to the attention of the court when black children were found to be overrepresented in classes for the educable mentally retarded in California. The transcript of the court's decision indicated that although black children represented only 10% of the state's general population, they provided some 25% of the population enrolled in EMR classes. This overrepresentation led the court to examine the assessment procedures utilized by the defendants in classifying a child as retarded. After exhaustive expert testimony the court ruled that the intelligence tests employed by the defendants were racially and culturally biased against blacks. One outcome was a ban on the use of IQ tests for classifying black children as mentally retarded in the State of California.

Litigation has not focused exclusively on the assessment practices for placing minority group children in classes for the educable mentally retarded. Bias in the classification of children with all types of handicapping conditions has also come under the review of the federal courts. In the case of Jose P. v New York City Board of Education, the plaintiffs claimed and the court found that the Board of Education failed to evaluate and place handicapped children in a timely manner. While this decision applied to all handicapped children, specific sections of the plan which implemented the judgment were required to be developed to deal with policies which would help eliminate any discrimination against minority handicapped children.

With respect to the emotionally handicapped, in Lora v. New York City Board of Education, the disproportionate placement or overrepresentation of blacks and Hispanics in Special Day Schools for the Socially Maladjusted and Emotionally Disturbed (SMED) led to an investigation of the Board's assessment and placement policies and resulted in a decision against the defendants. The decision noted that although the racial composition of the pupil population in the SMED Schools (as of October 1977) was 65% black, 27% Hispanic, and 5% other (primarily white), the proportions for equivalent grades in the New York City public schools were 36% black, 23% Hispanic and 41% other. Judge Weinstein ascribed this overrepresentation of minority group children to the use of vague and subjective criteria and determined that the combination of referral, assessment and placement practices and policies had a racially discriminatory (segregative) effect on black and Hispanic children*. The fact that a significant number of children

*This case has been appealed to the United States Court of Appeals for the Second Circuit. The appeals court found that the trial court had applied the wrong standard in determining that the Board of Education has shown "discriminatory intent". Consequently, this finding was vacated and the case was remanded to the trial court for clarification of the trial court's findings

were placed in SMED schools without the benefit of any formal assessment procedure was viewed as a denial of the childrens' right to due process guaranteed under the Fifth Amendment to the United States Constitution. It is important to note that in each of the aforementioned decisions, statistically significant under- or overrepresentation was not accepted by the courts as prima facie evidence of bias and discrimination. In each case cited, the court ultimately turned its attention to and rendered a decision based upon specific violations of federal and state statutes and regulations in the assessment and placement practices of the offending school system. In this view, bias cannot be defined simply through an examination of disproportionate minority group representation in special education programs; however, this state of affairs is sufficient to warrant an in-depth investigation of the referral, assessment and placement practices that may be responsible for these discrepancies. Accordingly, the present investigation was designed to document empirically the disproportionate representation, if any, of minority group children in phases of the referral, evaluation and placement process for special education programs in the New York City School System. Where significant disproportions were found to exist, their magnitude, direction and pervasiveness were measured in prepartion for a follow-up investigation of the procedural factors to which they might be attributed.

Methods and Procedures

This investigation addressed four specific problems concerning:

(a) the representativeness of children referred for COH evaluation;

(b) the social-demographic and administrative variables that are related to the referral rates at the school level; and

(c) the representativeness of the population of pupils placed in public and publicly funded private programs for the handicapped.

This section delineates the four problems and the methods employed to investigate each.

Problem 1: Are the referrals to COH for evaluation representative of the ethnic composition of the New York City School System's population both citywide and within each of the 32 school districts?

During a four-week period, May 21, 1979 through June 15, 1979 the social workers in all 32 COH units were requested to collect the following data for all children interviewed: race, occupation of all employed parents, estimated socioeconomic status (lower, middle, upper class), and the number of parents in the home. These data were aggregated for all districts and submitted for computer analysis. For a sample of the Socioeconomic Data Collection Sheet employed in this study, see Appendix A.

Problem 2: Is the ethnic composition of children placed in public school programs for the handicapped proportionate to the ethnic composition of the total New York City School System's population both citywide and within each district?

In order to determine the representation of ethnic groups in specific special education programs on citywide and district levels, data were analyzed for every special class on the elementary and junior high school levels.

Data Collection by the Office of Educational Statistics (O.E.S.) for the annual school census for the Office of Civil Rights, Department of Health, Education and Welfare were obtained for each of the past three years: 1977-1978, 1978-1979 and 1979-1980. These data not only indicated the relative ethnic proportions of each handicapped program citywide for each of these three years, but, in regard to certain programs, reflected the placement trends over this three-year period.[1]

To determine the incidence of handicap by race within each of the 32 districts, a correction formula was applied to the O.E.S. data to adjust for students residing in a given district and served in other districts. (See Appendix A).

Problem 3: Is the racial composition of funded students in private schools for the handicapped proportionate to their representation in the New York City School System?

The data for this study were based on the annual Basic Educational Data System Survey (BEDS) conducted by the New York State Education Department for the school year 1977-1978. These data were aggregated for all publicly funded handicapped children residing in New York City and served in private schools in New York State.

Problem 4: Is there a significant relationship between referral rates and the social-demographic and administrative factors of individual schools?

In order to determine the school referral rates, the numbers of referrals by school were collected by field consultants who reviewed the log-in books at all 32 COHs for a three-month sampling period -- December 1978, February and April 1979.

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[1]Additional census data including information on the sex and socioeconomic status of placements for 1978-1979 were collected for a smaller sample of subjects studied in-depth in relation to Problem 1. These data will be presented in a subsequent report.

The referral rate for each school was calculated as the ratio between the number of referrals and the average register of each school for the 1978-1979 school year. The schools were divided into High and Low Referral Groups on the basis of their referral rates.

The social-demographic and administrative variables for each school were selected from The School Profile Analysis for the 1976-1977 school year. Although these data were collected two years prior to the collection of referral rate statistics, they were the most recent data available.

The social-demographic and administrative varibles for High and Low Referral schools were compared to determine the existence of significant systematic differences.

FINDINGS

The results of the investiagtion of each of the four problems are presented in the following sections. The analysis and synthesis of these findings and their implications for the existence of bias in the REP process are presented in the final section of this chapter -- Sources of Bias.

Problem 1. The ethnic representativeness of referrals to COH citywide and by district.

Table 1 presents the cross-tabulation, by ethnic group and district, of referrals for initial evaluation to the district COHs between May 21st and June 15th, 1979.[2] Each cell indicates (1) the number of black, Hispanic or white students referred in each district, (2) the relative percentage of the total district referrals comprised by each ethnic group and (3) each group's relative percentage of each district's total elementary and junior high school population -- regular and handicapped students.

A chi-squre test was applied to the data in each column of Table 1 to determine whether the obtained frequencies of referrals for the ethnic groups in each district differed significantly from the expected frequencies which were based upon the racial composition of the district's total population. For districts where significant chi-squares were obtained, binomial tests were applied to the data for each cell to determine which specific ethnic group(s) was (were) significantly over- or underrepresented. For example, the chi-square value for District Eight's data was 10.9076, significant beyond the .01 level. Based upon a representation of 34.1% in District Eight's total population, it was expected that, out of 44 total referrals evaluated, 15.14 would be black. A binomial test comparing this expected frequency with the obtained frequency of 6 resulted in a z-score of -2.59. If the null hypothesis of nonsignificant differences were true,

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[2]District 27 did not participate in this investigation.

TABLE 1

CROSS TABULATION OF REFERRALS TO COH BY DISTRICT AND ETHNIC GROUP*

(Data based on total referrals to C.O.H. for four week period - May 21, 1979 - June 15, 1979.)

DISTRICT	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
BLACK	9[a] (11.0)[b] (14.0)[c]	15 (20.5) (13.9)	31 (51.7) (47.3)	15 (37.5) (36.1)	27 (84.4) (82.4)	9 (41.3) (33.2)	19 (41.3) (33.2)	6 (13.6) (34.1)	35 (63.6) (52.3)	14 (26.4) (25.8)	22 (50.0) (48.3)	16 (30.8) (36.0)	22 (73.3) (79.7)	5 (13.9) (22.7)	14 (20.3) (16.5)	29 (93.5) (89.4)
HISPANIC	69 (84.2) (75.7)	14 (19.2) (26.5)	22 (36.7) (38.9)	23 (57.5) (53.4)	5 (15.6) (17.1)	33 (58.9) (72.1)	26 (59.1) (66.0)	26 (59.1) (50.6)	20 (36.3) (45.8)	17 (32.1) (52.3)	10 (22.7) (24.1)	35 (67.3) (62.6)	6 (20.0) (17.3)	25 (69.4) (66.5)	41 (59.4) (61.4)	0 (0.0) (10.4)
WHITE	4 (4 9) (4.0)	30 (41.1) (32.9)	7 (11.7) (11.9)	0 (0.0) (0.0)	0 (0.0) (0.0)	8 (14.3) (5.5)	0 (0.0) (0.4)	19 (35.8) (18.7)	0 (0.0) (0.4)	19 (35.8) (18.7)	12 (27.3) (26.0)	0 (0.0) (1.1)	2 (0.7) (2.3)	4 (11.0) (9.3)	9 (13.0) (19.7)	0 (0.0) (0.1)
OTHER	0 (0.0) (7.2)	13 (17.8) (26.7)	0 (0.0) (2.0)	0 (0.0) (0.3)	0 (0.0) (0.0)	6 (10.7) (1.7)	1 (2.2) (1.8)	6 (0.6) (0.6)	0 (0.0) (1.4)	2 (3.8) (3.2)	0 (0.0) (1.6)	0 (0.0) (0.3)	0 (0.0) (0.6)	1 (1.7) (1.4)	2 (2.9) (2.3)	2 (6.5) (0.1)
TOTAL	82	73	60	40	32	56	46	44	55	53	44	52	30	36	69	31

[a]Raw number of referrals.

[b]Relative percentage of referrals based upon total district referrals.

[c]Relative percentage of total district elementary and intermediate school population.

*No census data available for Districts 26 and 27.

TABLE 1

CROSS TABULATION OF REFERRALS TO CDH BY DISTRICT AND ETHNIC GROUP (CONT.)

(Data based on total referral to C.D.H. for four week period - May 21, 1979 - June 15, 1979)

DISTRICT	17	18	19	20	21	22	23	24	25	28	29	30	31	32	TOTAL
BLACK	30[a] (70.0)[b] (85.4)[c]	27 (55.1) (61.3)	23 (52.3) (49.0)	2 (5.7) (9.1)	9 (18.8) (20.9)	17 (30.4) (29.2)	37 (80.4) (79.8)	4 (7.7) (10.9)	13 (32.5) (14.8)	29 (56.9) (47.3)	30 (83.3) (69.0)	15 (27.3) (19.3)	6 (7.1) (11.3)	12 (21.1) (29.1)	560 (35.8) (37.8)
HISPANIC	5 (12.5) (11.9)	1 (2.0) (8.5)	13 (29.6) (42.3)	3 (8.6) (25.1)	14 (29.2) (15.9)	5 (1.1) (8.9)	6 (2.4) (13.1)	17 (9.2) (32.7)	4 (2.0) (10.0)	7 (13.7) (18.8)	2 (5.6) (11.2)	19 (34.6) (29.3)	7 (8.2) (9.8)	42 (73.5) (64.4)	519 (33.1) (32.6)
WHITE	1 (2.5) (1.1)	13 (26.5) (28.7)	3 (6.8) (7.3)	30 (85.7) (60.4)	22 (45.8) (59.7)	33 (58.9) (57.6)	0 (0.0) (0.1)	24 (46.2) (42.9)	18 (45.0) (59.3)	12 (23.5) (26.4)	4 (11.0) (17.1)	18 (32.7) (41.6)	62 (72.9) (80.9)	1 (1.8) (5.8)	395 (25.2) (25.8)
OTHER	2 (5.0) (1.6)	0 (0.0) (1.5)	5 (11.4) (3.5)	0 (0.0) (5.4)	3 (6.3) (3.5)	1 (1.8) (3.3)	0 (0.0) (0.3)	7 (13.5) (11.0)	5 (12.5) (13.8)	3 (5.9) (7.6)	0 (0.0) (2.6)	3 (5.5) (9.8)	3 (3.5) (2.1)	1 (1.8) (10.6)	60 (3.8) (3.9)
TOTALS	40	49	44	35	48	56	46	52	40	51	36	55	85	57	1565

[a]Raw number of referrals.

[b]Relative percentage of referrals based upon total district referrals.

[c]Relative percentage of total district elementary and intermediate school population.

a difference of this magnitude would be obtained by chance in less than 1% of all possible samples. Accordingly, the null hypothesis was rejected; there was a significant difference between the obtained and expected number of black students referred for COH evaluation in District Eight. Although further information is required for verification, this result tends to suggest bias, in the mathematical sense, in the referral process for District Eight; black referrals were significantly underrepresented in comparison to their representation in the district's total elementary and junior high school population. Similar analyses applied to the data for Hispanic and white referrals in District Eight indicated proportionate representation for the former and significant overrepresentation for the latter group.

The relative over- or underrepresentation of referrals for each ethnic group in each district for the sampling period and the statistical significance or non-significance of these values are presented in Table 2. The entries in this table represent the discrepancies between each ethnic group's percentage of a district's total referrals for the sample period and its relative percentage of the district's total elementary and intermediate school population. The sign of each entry indicates whether the discrepancy is in the direction of over- or underrepresentation, positive for the former and negative for the latter; asterisks indicate statistically significant discrepancies.

Inspection of Table 2 reveals that significant discrepancies were observed in 6 of the 30 districts for which data were available. Whites were significantly overrepresented in the referrals to the COHs in Districts 6, 8, 10 and 20; their representation was not significantly discrepant in any of the other districts. Notably, they were not under-represented to a

TABLE 2

RELATIVE PERCENTAGE OF OVER- OR UNDERREPRESENTATION OF REFERRALS TO DISTRICT COHs

(Data based on total referrals to C.O.H. for four week period -- May 21, 1979 - June 15 1979)

DISTRICT	HISPANIC	BLACK	WHITE
1	+ 8.5	- 3.0	+ 0.9
2	- 7.3	+ 6.6	+ 8.2
3	- 2.2	+ 4.4	0
4	+ 4.1	+ 1.4	- 10.2
5	- 1.4	+ 2.0	0
6	- 13.2*	- 4.6	+ 8.8**
7	- 9.5	+ 8.1	- 5.8
8	+ 8.5	- 20.5***	+ 12.8*
9	- 9.5	+ 11.3	0
10	- 20.2	0	+ 17.1***
11	- 1.4	+ 1.7	+ 1.3
12	+ 4.7	- 5.2	- 1.1
13	+ 2.7	- 6.4	- 1.6
14	+ 2.9	- 8.8	+ 1.7
16	- 10.4	+ 4.1	0
17	0	- 10.4	+ 1.4
18	- 6.5	- 6.2	- 2.2
19	- 12.7	+ 3.3	0
20	- 16.5*	- 3.4	+ 25.3*
21	+ 13.3*	- 2.1	- 13.9
22	0	+ 1.2	+ 1.3
23	- 3.4	0	0
24	- 2.5	- 3.2	+ 3.3
25	- 2.2	+ 17.7*	- 14.3
26	NO DATA	NO DATA	NO DATA
27	NO DATA	NO DATA	NO DATA
28	- 5.1	+ 9.6	- 2.9
29	- 5.6	+ 14.3	- 6.1
30	- 5.3	+ 8.0	- 8.9
31	+ 2.4	- 4.2	- 8.0
32	+ 9.1	- 8.0	- 4.0
CITYWIDE TOTAL	+ 0.49	- 1.98	- 0.56

Entries represent the difference between the relative percentage of referral and the relative percentage of the total elementary and intermediate school population for each ethnic group in each district.

*$p < .05$
**$p < .01$
***$p < .001$

significant degree in any of the districts included in the sample. Blacks were significantly overrepresented in District 25 but underrepresented in District 8. Hispanics were significantly underrepresented in Districts 6, 10 and 20 and overrepresented in District 21. Although the number of statistically significant observed discrepancies exceeded chance expectancy at the .05 level, the ethnic proportions of referrals for the total citywide sample (N=1,565) did not differ significantly from the corresponding proportions for the total citywide elementary and intermediate school population.

The results of this phase of the investigation suggest that, although disproportionate ethnic representation may characterize the referral process in specific districts, citywide referrals to COH are ethnically proportionate.

These somewhat paradoxical findings -- proportionate citywide ethnic representation in referrals and concurrent disproportional representation in several districts -- may be attributable to either of two causes; one suggestive of intra-district referral bias and the other a statistical artifact. These findings would be suggestive of intra-district referral bias if the observed disproportionate ethnic representations in district referral rates were real and the proportionate representation in citywide totals the result of the balancing-out of these significant within district over- and underrepresentations. For example, when the district data were aggregated the significant underrepresentation of black referrals in District 8 -- 20.5% -- may have been cancelled-out by the significant overrepresentation of black referrals in District 25 -- 17.7%.

On the other hand these paradoxical findings might be a statistical artifact reflecting the greater reliability of large sample statistics than small sample statistics as estimators of population parameters. That is, the citywide data, which are based upon large sample sizes, are less likely to be influenced by random fluctuations due to sampling error

than the district data, which are based upon small sample sizes.

In any event, these findings concerning the ethnic representativeness of referrals to COH indicate that a follow-up inquiry is necessary to (1) verify the reliability of the findings, and (2) determine the causal mechanisms which underlie them. It should be noted that these data represent raw numbers undifferentiated by descriptive indicators such as reason for referral or appropriateness of referral -- data necessary to estimate the validity of referrals and, by inference, bias in the referral process. However, these results were especially useful for determining the specific loci, both demographic and procedural, for the more in-depth investigations which were subsequently undertaken.

Problem 2. The ethnic representativeness of public school programs for the handicapped.

The ethnic composition of New York City's Public School Special Education programs for the period of 1977-1980 is summarized in Tables 3, 4 and 5.[3] These data represent population parameters, not sample statistics. Accordingly, statistical tests for significance were not applied; observed differences are real and not attributable to chance.

Table 5, which presents data collected in October 1979, indicates that whites were underrepresented in the programs for the educable mentally retarded (EMR), emotionally handicapped (EH), and neurologically impaired-emotionally handicapped (NI-EH) and overrepresented in the Resource Room Program for Children with Specific Learning Disabilities (SLD). The data for the black children reveal a pattern of representation that is, essentially, a mirror-image of that for the white group. That is, with the exception of the resource room program, in which black children were

[3]Data for 19/7-8 and 1978-9 are less comprehensive and not always directly comparable to data for the 1979-80 school year. Accordingly, interpretations based on comparisons within programs between years should be made cautiously.

just marginally underrepresented, black children were ' epresented in EH, NI-EH and EMR classes

Data for the Hispanic group revealed that they were appropriately represented in each program except the resource rooms, in which they were underrepresented.

The most compelling finding in the 1979-80 data was the significant overrepresentation of blacks in EH and NI-EH programs. In these two programs, black representation exceeded their proportion of the general school population by 13.5% for the former and 15.8% for the latter.

For the white group, it is of particular interest to note that their representation in the resource room program -- the least restrictive environment in special education -- exceeded their representation in the general school population by 11.0%. Of further interest is the finding that whites were appropriately represented in the HC-30 program for the neurologically impaired (discrepancy = +1.06) for the current year but were overrepresented (+6.25) in the 1977-78 school year.[4] It appears possible that mildly handicapped white children are now (in accordance with the Public Laws) being mainstreamed to a greater extent than in 1978; the data do not support the same conclusion for the Hispanic population and are equivocal for blacks.

Indications of some progress in the black composition of the EMR programs are also in evidence. Black children for the 1979-80 school year were overrepresented by 8.92% as compared with 10.58% for the 1977-78 period. The situations for the emotionally handicapped categories, EH and NI-EH, on the other hand, show no apparent progress. As noted previously, blacks were seriously overrepresented in these programs.[5]

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[4]Data for HC-30 Program for 1978-79 are not available.

[5]Whether or not the increase in black representation in EH and NI-EH programs was correlated with the decrease in their representation in EMR classes will be investigated in subsequent analysis.

TABLE 3

ETHNIC COMPOSITION OF EMR, TMR, HC30
AND EH PROGRAMS IN ELEMENTARY AND
JUNIOR HIGH SCHOOLS FOR THE
1977-1978 SCHOOL YEAR

Program	Hispanic	Black	White
EMR	36.52%[a] (+5.40)[b]	48.15% (+10.58)	15.33% (-12.82)
TMR	32.6% (+1.48)	41.00% (+3.43)	25.00% (-3.15)
EH	25.71% (-5.41)	53.07% (+15.50)	20.95% (-7.20)
HC30	23.2% (-7.92)	38.4% (0.83)	34.40% (+6.25)
TOTAL ELEMENTARY AND JUNIOR HIGH SCHOOL POPULATION	31.12%	37.57%	28.15%

[a]Percent within program

[b]Discrepancy between the ethnic group's observed percent within program and its percentage of the total elementary and junior high school population (bottom row). A positive sign indicates an over-representation and a negative sign indicates an underrepresentation.

TABLE 4

ETHNIC COMPOSITION OF EMR, TMR AND EH PROGRAMS IN ELEMENTARY AND JUNIOR HIGH SCHOOLS FOR THE 1978-1979 SCHOOL YEAR

PROGRAM	HISPANIC	BLACK	WHITE
EMR	35.45%[a] (+3.96)[b]	48.06% (+10.45)	15.71% (-11.64)
TMR	32.74% (+1.25)	37.72% (+0.11)	28.13% (+.78)
EH	23.7% (-7.79)	48.49% (+10.88)	27.74% (+0.39)
TOTAL ELEMENTARY AND JUNIOR HIGH SCHOOL POPULATION	31.49%	37.61%	27.35%

[a]Percent within program

[b]Discrepancy between the ethnic group's observed percent within program and its percentage of the total elementary and junior high school population (bottom row). A positive sign indicates an overrepresentation and a negative sign indicates an underrepresentation.

TABLE 5

ETHNIC COMPOSITION OF EMR, TMR, HC30, SLD RESOURCE ROOM, NI-EH AND EH PROGRAMS IN ELEMENTARY AND JUNIOR HIGH SCHOOLS FOR THE 1979-1980 SCHOOL YEAR

Program	Hispanic	Black	White
EMR	36.16%[a] (+3.55)[b]	46.70% (+8.92)	15.96% (-9.80)
TMR	36.01% (+3.40)	37.39% (0.39)	25.44% (0.32)
HC30	32.23% (-0.38)	40.53% (+2.75)	26.82% (+1.06)
SLD RESOURCE ROOM	23.70% (-8.91)	35.20% (-2.60)	36.80% (+11.05)
NI-EH	29.16% (-3.45)	53.57% (+15.79)	15.43% (-10.33)
EH	29.66% (-2.95)	51.31% (+13.53)	18.07% (-7.69)
TOTAL ELEMENTARY AND JUNIOR HIGH SCHOOL POPULATION	32.61%	37.78%	25.75%

[a]Percent within program

[b]Discrepancy between the ethnic group's observed percent within program and its percentage of the total elementary and junior high school population (bottom row). A positive sign indicates an overrepresentation and a negative sign indicates an underrepresentation.

To determine the pervasivenes of ethnic over- and underrepresentation in New York City's programs for the handicapped, and to identify those classes which evinced proportionate representation, and, by inference, non-biased placement practices, the ethnic composition of special education programs within each of the 32 districts was compared to the ethnic composition of each district's elementary and intermediate school population. Statistical adjustments were applied to the data to control for pupils served in a particular district but residing in another. Accordingly, these data reflect the referral, evaluation and placement practices of each respective district.

Tables 6, 7 and 8 present the relative percentages of over- or underrepsentation of Hispanics, blacks and whites, respectively, in each of the major programs for the handicapped in each school district. Positive entries in these tables indicate overrepresentation and negative numbers indicate underrepresentation. To determine whether the placement discrepancies were statistically significant, binomial tests were applied to the differences between the observed frequencies and the expected frequencies based upon each ethnic group's incidence in a district's total population. The data for TMR programs were not presented since the frequencies were too small to permit meaningful inferential anslysis; the frequencies for the SLD programs in several districts were also too small for inferential analysis.

Inspection of Table 6 for Hispanic students reveals that although their representation in HC-30 classes for the neurologically impaired was significantly discrepant in 14 of the 31 districts, the number of over-and underrepresentation balanced-out -- i.e., there were an approximately equal number of significant over- and underrepresentations. Of the 31

dist.icts, Hispanics were significantly underrepresented in the NI-EH and EH programs in 13 and 11 districts, respectively. With few exceptions, their representation in classes for EMR and the SLD resource room program were not significantly discrepant.

Inspection of Table 7 reveals that blacks were significantly over-represented in the NI-EH programs of 19 districts, the EH programs of 18 districts, and the EMR programs of 12 districts. Their representation in HC-30 classes was mixed -- blacks were significantly underrepresented in 6 districts and overrepresented in 10 districts. Although blacks showed significant discrepancies in the SLD programs for 5 districts, their representation in the district populations for this program was more appropriate than for any of the other public school special education programs.

Inspection of Table 8 for whites reveals a pattern of discrepancies which, for the most part, is a mirror-image of the pattern observed for black students. In most of the districts and programs in which blacks were significantly overrepresented, whites were significantly underrepresented. As was observed for blacks, the SLD program evidenced the fewest incidences of significant discrepancies for whites among the 31 districts.

TABLE 6

RELATIVE PERCENTAGE OF OVER- OR UNDERREPRESENTATION OF HISPANICS IN PUBLIC SCHOOL SPECIAL EDUCATION PROGRAMS IN EACH SCHOOL DISTRICT

October, 1979

	Program				
District	HC-30	NIEH	EH	EMR	SJD
1	+ 8%*	+ 6%	+ 2%	+ 2%	+ 9%
2	+ 21*	+ 9	+ 14*	+ 8	+ 13*
3	+ 6	- 5	- 6	+ 12*	- 13*
4	- 1	- 18*	- 17*	+ 12	+ 5
5	- 9*	- 13*	- 16*	- 17*	- 17a
6	- 9*	- 14*	- 31*	- 9	- 6
7	- 6	- 17*	- 6	- 1	- 7
8	+ 8*	- 2	- 13*	+ 4	- 8*
9	+ 1	- 11*	- 13*	- 2	- 21
10	- 8*	- 17*	- 10	- 5	- 6
11	0	- 2	0	- 1	- 4
12	- 3	- 19*	- 1	+ 4	- 1
13	- 3	+ 2	- 16*	- 7*	+ 2
14	- 2	- 2	0	- 2	0
15	- 3	+ 6	- 12*	+ 21*	- 15*
16	- 7*	- 10*	0	- 10*	- 4a
17	0	0	- 3	+ 1	- 3
18	- 1	- 5	0	+ 13*	+ 1
19	- 6	0	- 8*	- 4	- 3
20	- 4*	+ 5	0	+ 7*	+ 8
21	+ 7*	+ 10*	+ 14*	+ 14*	+ 3
22	+ 4*	+ 1	+ 5	- 4	- 3
23	- 8*	- 10*	- 3	- 2	- 16a
24	- 9*	- 7	0	+ 5	+ 1
25	+ 3	- 2	- 5	- 5	0
26	-	-	-	-	-
27	0	- 6*	- 4*	- 4	+ 2
28	- 5	- 6	- 10*	+ 2	0
29	- 6*	- 6*	- 4*	- 3	- 3
30	- 1	- 12*	- 4	+ 2	+ 19a
31	+ 3*	+ 2	+ 3	+ 4	0
32	+ 4	- 17*	+ 2	- 3	- 42

*$p < .05$

Entries were determined by subtracting the percentage of Hispanics in each district from their relative percentage in each special education program for each district. Positive entries indicate overrepresentation; negative entries indicate underrepresentation.

[a]N was too small to permit inferential statistial analysis

TABLE 7

RELATIVE PERCENTAGE OF OVER- OR UNDERREPRESENTATION OF BLACKS IN PUBLIC SCHOOL SPECIAL EDUCATION PROGRAMS IN EACH SCHOOL DISTRICT

October, 1979

	Program				
District	HC-30	NIEH	EH	EMR	SLD
1	- 4%*	+ 6%*	- 8%*	+ 6%	- 3%
2	+ 3	+ 3	+ 15*	+ 13*	- 4
3	+ 7	+ 15*	+ 20*	- 9	+ 1
4	0	+ 9*	+ 4	- 2	0
5	+ 9*	+ 12*	+ 17*	+ 18*	+ 18a
6	+ 7*	- 2	+ 25*	+ 8	+ 5
7	- 6	- 17*	- 6	- 1	+ 8
8	- 21*	+ 13*	+ 23*	- 1	- 2
9	+ 1	+ 15*	+ 11*	+ 4	+ 23
10	- 4*	+ 5*	+ 3	+ 4	+ 22*
11	- 3	+ 10	+ 6	+ 10*	- 1
12	+ 6	+ 23*	+ 5	- 2	+ 3a
13	+ 4	- 1	+ 15*	+ 8*	- 11*
14	+ 1	+ 6	+ 7*	+ 3	0
15	+ 1	+ 2	+ 13*	- 10*	+ 12*
16	+ 5*	+ 11*	+ 1	+ 9*	+ 2a
17	- 3	- 6	+ 6	- 2	+ 5
18	+ 2	+ 21*	+ 2	+ 8	- 18*
19	+ 7	+ 3	+ 13*	+ 7	- 5a
20	- 8*	0	- 8*	- 5	- 5
21	+ 6*	+ 19*	+ 18*	+ 13*	- 6
22	+ 9*	+ 21*	+ 17*	+ 5	+ 3
23	+ 10*	+ 11*	+ 3	- 2	+ 17a
24	- 7*	+ 5	+ 4	+ 3	+ 4
25	+ 3	+ 12*	+ 19*	+ 15*	+ 6
26	-	-	-	-	-
27	0	+ 37*	+ 27*	+ 23*	- 8*
28	+ 23*	+ 29	+ 31*	+ 14*	- 6
29	+ 14*	+ 20*	+ 17*	+ 17*	+ 6
30	+ 12*	+ 33*	+ 30*	+ 10*	+ 24a
31	+ 8*	+ 38*	+ 23*	+ 23*	+ 2
32	- 9*	+ 20*	- 1	+ 4	- 27a

*$p < .05$

Entries were determined by subtracting the percentage of blacks in each district from their relative percentage in each special education program for each district. Positive entries indicate overrepresentation; negative entries indicate underrepresentation.

[a]N was too small to permit inferential staistical analysis

TABLE 8

RELATIVE PERCENTAGE OF OVER- OR UNDERREPRESENTATION OF WHITES IN PUBLIC SCHOOL SPECIAL EDUCATION PROGRAMS IN EACH SCHOOL DISTRICT

October, 1979

	Program				
District	HC-30	NIEH	EH	EMR	SLD
1	- 4%*	- 4%	- 2%	- 1%	0%
2	- 2	+ 3	- 11*	- 7	+ 1
3	- 9*	- 12*	- 12*	- 5	+ 14*
4	+ 3	+ 9*	+ 13*	- 7*	- 4
5	0	0	0	0	0
6	+ 2	+ 8*	+ 3	- 1	+ 3
7	0	0	0	0	0
8	+ 15*	- 12*	- 8*	- 2	+ 11*
9	0	0	0	0	0
10	+ 12*	+ 11*	+ 4	+ 1	- 15*
11	+ 4	- 8	- 4	- 7	+ 7
12	- 1	- 1	- 1	- 1	- 1
13	0	0	- 1	0	+ 10
14	+ 3	- 3	- 6*	+ 1	0
15	+ 4	- 6	- 7*	- 11*	+ 5
16	0	0	0	0	0
17	+ 1	0	- 1	+ 3	- 1
18	+ 1	- 18*	- 2	- 20*	+ 19*
19	0	- 3	- 3	- 2	+ 10a
20	+ 18*	- 3	+ 15*	- 2	0
21	- 10*	- 28*	- 28*	- 25*	+ 2
22	- 11*	- 17*	- 18*	- 2	+ 1
23	0	0	0	0	0
24	+ 25*	+ 9	+ 4	0	+ 4
25	+ 7	0	- 7*	0	- 7
26	-	-	-	-	-
27	+ 2	- 24*	- 21*	- 17*	- 7*
28	- 13*	- 17*	- 14*	- 9*	+ 9*
29	- 5*	- 10*	- 10*	- 12*	- 1
30	- 5	- 19*	- 18*	- 8*	- 32a
31	- 10*	- 38*	- 24*	- 25*	- 1
32	- 3	- 3	- 2	0	+ 71a

*$p \leq .05$

Entries were determined by subtracting the percentage of whites in each district from their relative percentage in each special education program for each district. Positive entries indicate overrepresentation; negative entries indicate underrepresentation.

[a]N was too small to permit inferential statistical analysis.

Problem 3. The representativeness of publicly funded private school placements.

Handicapped pupils served in private facilities are eligible for public funding if it is determined, through evaluation or impartial hearing, that a public school placement appropriate for serving a child's particular needs is not available or a child is not evaluated and placed in an appropriate public school program within 60 days from referral.

A cross-tabulation of the ethnic composition of publicly funded private school handicapped children from New York City by category of handicap is presented in Table 9. These data are from tha annual BEDS survey for the 1977-78 school year, the most recent data available. Since these data represent statistics on an 85% sample and not population parameters, binomial tests of significance were applied to the differences between ethnic percentages of private school placements and the ethnic percentages of the total elementary and junior high school population -- regular and handicapped. Inspection of Table 9 reveals that blacks and Hispanics were significantly underrepresented in all categories of handicap relative to their percentage of the total citywide school population; whites, on the other hand, were significantly overrepresented. For the total publicly funded private school handicapped population, whites were overrepresented by 28.07% while blacks and Hispanics were underrepresented by 6.69% and 16.79%, respectively. Obviously, the underrepresentation of Hispanics is far greater than that for blacks.

TABLE 9

ETHNIC DISTRIBUTION OF HANDICAPPED PUPILS ENROLLED IN PRIVATE SCHOOLS WITH NEW YORK CITY CONTRACT AID FUNDING

NOTE: This table provides information for 85% of the New York City handicapped pupils receiving contract aid funding. Data for the remaining 15% were insufficient to determine ethnicity.

School year 1977-1978

ETHNIC GROUP	HANDICAPPING CONDITION				
	EH	EMR	EMR/TMRc	OTHER	TOTAL
BLACK	542 (32.9)[a] (-5.69)[b]*	385 (30.5) (-7.78)*	36 (20.7)	377 (28.2) (-9.58)*	1340 (30.31) (-6.69)*
HISPANIC	221 (13.4) (-19.21)*	257 20.4) (-12.21)*	46 (26.4)	175 (13.1) (-19.51)*	699 (15.81) (-16.79)*
WHITE	883 (53.7) (+27.95)*	619 (49.1) (+23.35)*	92 (52.9)	787 (58.8) (+33.05)*	2381 (53.87) (+28.07)*
TOTAL	1646	1261	174	1339	4420

*$p \leq .05$

[a]Relative percentage of column total

[b]Relative percentage of over- or underrepresentation using total New York City elementary and intermediate school population as the baseline.

[c]Undifferentiated in census.

Problem 4. The social-demographic and administrative factors which correlate with school referral rates.

To investigate the social-demographic and administrative factors which are associated with the variance in school referral rates to COH, groups of high and low referring schools were formed. The data for forming these groups, which were extracted from the log-in books in each of the 32 COHs, were the number of referrals from each school, citywide, for a three-month sampling period. Table 10 presents the frequency distribution of the number of schools referring various numbers of pupils to COH for evaluation. Since these data were derived from the district COH log-in books, a school had to refer at least one pupil during the three-month sampling period to be included in the distribution.

Inspection of Table 10 reveals a wide range in the number of referrals among the schools; the minimum number of referrals for a school was 1 and the maximum was 36. The mode of the distribution was 1, the median 6.5 and the mean 7.72 with a standard deviation of 5.36.

The referral rates for the schools were computed as the ratio between the observed number of referrals and the average daily register. To maximize the variance in the dependent measure, referral rate, schools in the lowest quartile of the referral rate distribution were placed in the Low Referral Group and all schools in the highest quartile were placed in the High Referral Group. The group sizes resulting from this procedure were 65 for the former group and 52 for the latter.

Descriptive data pertaining to the demographic-social, pupil achievement, organizational and staff characteristics of each of the schools included in the High and Low Groups were collected from The School Profile Analysis for the 1976-77 school year. The descriptive variables included in the data analysis were: Eligibility for Title I funding; age and percentage

of utilization of the school; average register, class size, attendance, and number of admissions and departures; percentages of black, Hispanic and white enrollment; percentage of students eligible for free lunch; percentages of students reading one and two years below grade level; pupil-teacher ratio and per pupil cost; percentages of faculty with more than 5 years experience and faculty on salary step C6 -- 30 credits beyond the masters degree.

An Hotelling's T-Square test was applied to the data to determine whether there were significant differences between the groups in a weighted vector comprised of all of the continuous descriptive variables. Hotelling's T-Square is a multivariate statistical test which holds the probability of making a Type I decision error -- that is, rejecting the null hypothesis of no significant differences when, in fact, it is true -- at a constant level (in this case alpha = .05) while determining whether two groups differ significantly in mean scores on a number of criterion variables. The obtained T^2 value of 72.3915 was highly significant, beyond the .001 level. That is, the High and Low Referral Groups differed significantly on at least some of the continuous criterion variables. Title I eligibility was not included in this analysis since it was a dichotomous and not a continuous variable; it was submitted to nonparametric chi-square analysis.

TABLE 10

FREQUENCY DISTRIBUTION OF THE NUMBER OF SCHOOLS REFERRING VARIOUS NUMBERS OF PUPILS TO COH DURING THE THREE-MONTH SAMPLING PERIOD -- DECEMBER 1978, FEBRUARY AND APRIL 1979

NUMBER OF REFERRALS	NUMBER OF SCHOOLS	RELATIVE FREQUENCY (PERCENT)	CUMULATIVE FREQUENCY (PERCENT)
1	79	18.0	18.2
2	1	0.2	18.4
5	53	12.0	30.5
6	64	14.5	45 0
7	51	11.6	56.6
8	38	8.6	65.2
9	33	7.5	72.7
10	29	6.6	79.3
11	19	4.3	83.6
12	16	3.6	87.3
13	5	1.1	88.4
14	11	2.5	90.9
15	9	2.0	93.0
16	4	0.9	93.9
17	5	1.1	95.0
18	6	1.4	96.4
19	3	0.7	97.0
20	2	0.5	97.5
22	2	0.5	98.0
24	1	0.2	98.2
26	1	0.2	98.4
27	2	0.5	98.9
29	2	0.5	99.3
30	1	0.2	99.5
33	1	0.2	99.8
36	1	0.2	100.0
TOTAL	440	100.0	

Accordingly, this analysis revealed that there was a significant relationship between the set of descriptive variables and the variable referral rate. Consequently, knowledge of a school's characteristics with respect to these decriptors would enable an administrator to improve somewhat the prediction of that school's referral rate and more properly allocate supportive staff resources.

Since the Hotelling's T-Square for the total set of descriptive variables indicated significant differences between the groups, the significance of the differences between the High and Low Referral schools for each descriptive variable were examined through the application of t-tests for independent samples (see Table 11).

Of the 16 descriptive variables which were investigated, significant differences between the groups were observed for 7: age of school; percentage of utilization; average class size; number of admissions; percentage of students reading two or more years below grade level; percentage of staff on salary level C6; and the average school register. The most significant differences were observed for average register; the Low Referral Groups, which had a mean of 1,126.84, exceeded the High Referral Group, which had a mean of 781.82, by an average of 345 students. Associated with the higher average register, the Low Referral schools, relative to the High Referral schools, were observed to have a significantly higher mean class size -- 28.99 for the former and 27.36 for the latter -- and a larger mean percentage of utilization -- 92.03% to 74.42%. These results suggest that overcrowding did not appear to stimulate referral to C.O.H. Rather, the relative anonymity associated with large register, overutilized and maximally utilized schools may result in a failure to identify the mildly handicapped student in need of special services. Conversely, in underutilized, low register schools,

students with learning or behavioral problems may stand-out and be readily identified. In any event, these inferences require further investigation for confirmation. The High Referral schools, relative to the Low, were observed to have more recent construction dates, a higher percentage of staff on salary level C6 and higher admissions rates. Although these findings were statistically significant it is hard to imagine their meaningfulness as potential causal factors in a functional relationship with the grouping variable, referral rate. On the other hand, a potentially important finding was that the Low Referral schools had a significantly higher percentage of students reading two or more years below grade-level (22.92%) than the High Referral schools (17.90%); there were no significant differences in the percentage of students reading more than one but less than two years below grade-level. These findings suggest that in those schools where the average achievement level is relatively high the low-achiever or student exhibiting deviant behavior is more readily identified as potentially in need of special service. Conversely, students with special needs tend to be overlooked in schools where the average achievement level is relatively low.

As this study was conducted in the context of an investigation of bias, it is particularly noteworthy that there were no significant differences in the ethnic and socioeconomic compositions of the High and Low Referral Groups.

A chi-square analysis was applied to the cross-tabulation of the categorical variable Title I eligibility, by referral group. The obtained chi-square of 0.83351 was not significant for a two-tailed test with one degree of freedom. That is, there were no significant differences in the proportions of Title I eligible schools between the High and Low Referral Groups.

TABLE 11
COMPARISONS OF SOCIAL-DEMOGRAPHIC, PUPIL ACHIEVEMENT, ORANGIZATIONAL AND STAFF CHARACTERISTICS BETWEEN HIGH AND LOW REFERRAL SCHOOLS

VARIABLE	GROUP	NUMBER OF SCHOOLS	MEAN	STANDARD DEVIATION	t VALUE	DEGREES OF FREEDOM
AGE OF SCHOOLS (MONTHS)	Low Referral	65	944.3958	24.1468	2.40*	115
	High Referral	52	933.2661	25.7589		
PERCENTAGE UTILIZATION	Low Referral	65	92.0309	59.4054	2.01*	115
	High Referral	52	74.4229	24.2758		
PERCENT BLACK	Low Referral	65	35.8305	28.7406	-1.09	115
	High Referral	52	41.6113	27.9841		
PERCENT HISPANIC	Low Referral	65	32.1413	26.8374	0.65	115
	High Referral	52	27.9806	24.9205		
PERCENT WHITE	Low Referral	65	30.4157	36.6548	0.32	115
	High Referral	52	28.4037	29.0224		
AVERAGE CLASS SIZE	Low Referral	65	28.9874	2.7386	2.72	115
	High Referral	52	27.3633	3.7276		
AVERAGE DAILY ATTENDANCE	Low Referral	65	85.0182	7.5046	-1.59	115
	High Referral	52	86.8133	3.5142		
PERCENT FREE LUNCH ELIGIBLE	Low Referral	65	67.0490	51.4058	0.43	115
	High Referral	52	63.7633	21.2816		
ADMISSIONS	Low Referral	65	31.7654	14.0698	-3.28***	115
	High Referral	52	39.4690	10.4169		
DEPARTURES	Low Referral	65	27.4521	14.4860	-0.68	115
	High Referral	52	29.1191	11.3498		
PERCENT READING ONE YEAR BELOW LEVEL	Low Referral	65	39.5382	23.0562	1.21	115
	High Referral	52	34.7645	18.2207		
PERCENT READING TWO OR MORE YEARS BELOW LEVEL	Low Referral	65	22.9240	19.3288	2.49**	115
	High Referral	52	14.9039	13.4630		
PER PUPIL COST	Low Referral	65	1108.7500	252.9588	-0.09	115
	High Referral	52	1112.7668	240.3619		
PUPIL-TEACHER RATIO	Low Referral	65	22.6890	4.454	- .07	115
	High Referral	52	22.7460	4.041		
PERCENTAGE OF TEACHERS WITH 5 YEAR OF EXPERIENCE	Low Referral	65	93.9250	81.818	-0.20	115
	High Referral	52	96.7083	88.927		
PERCENTAGE OF TEACHERS ON C6 SALARY LEVEL	Low Referral	65	40.. 4	14.8926	-2.60**	115
	High Referral	52	47.7979	14.9160		
DAILY REGISTER	Low Referral	65	1126.8425	422.5322	4.98**	115
	High Referral	52	781.8245	298.6960		

*p ≤ .05
**p ≤ .01
***p ≤ .001

In summary, the results of this investigation point toward a type of figure-ground factor as underlying the observed ralationships between the characteristics of schools and their referral rates to C.O.H. That is, the more that a student encountering problems in school stands-out against the background of the school environment the greater is the probability of referral to C.O.H. Problem students in large register schools with high population densities -- percentages of utilization -- and low achievement statistics may fade into the background and escape identification. On the other hand, students encountering difficulties in low register, underutilized schools with relatively high achievement statistics stand-out in contrast to the enviornment and are more readily identified. It should be noted that these interpretations of the findings are post hoc inferences based on the observations of this study. Since they were not hypotheses to be examined by this study, they can neither be confimed nor disproven by the results of this study. Further investigation specifically designed toward that end is required.

TABLE 12

CHI-SQUARE ANALYSIS OF TITLE I ELIGIBILITY
BY REFERRAL RATE GROUP

COUNT ROW PCT COL PCT	TITLE I ELIGIBLE	 NOT ELIGIBLE	 TOTAL
LOW REFERRAL GROUP	70 63.6 47.9	40 36.4 55.6	110 50.5
HIGH REFERRAL GROUP	76 70.4 52.1	32 29.6 44.4	100 49.5
TOTAL	146 67.0	72 33.0	218 100.0

Sources of Ethnic Over-and Underrepresentation

In an effort to determine the specific loci in the referral, evaluation and placement process at which ethnic over- or underrepresentation appears, the data collected during this investigation, i.e., the ethnic compositions of the total city-wide population of referrals to COH, and the classifications and placements of students, public and private, were juxtaposed and compared. Since many of the table entries are population parameters, to avoid confusion, the significance of sample statistics was not reported. Significance levels for these statistics were reported in previous sections of this paper. Tables 13, 14 and 15 present matrices comparing the percentages of Hispanics, blacks and whites, respectively, among each of the aforementioned populations. These data suggest the points in the process where appreciable discrepancies arise. The entries in these tables indicate the percentage discrepancy between an ethnic group's representation in the column population and their representation in the row population. For example, Table 13 indicates that Hispanics comprised 33.10% of all referrals and 32.60% of the total junior high and elementary school popluation. Accordingly, the table ent- .49%, indicates a slight overrepresentation in the referrals relative to the total population.

Inspection of these tables reveals that ethnic representation at the referral stage is approximately proportionate to the ethnic composition of the total public school population. The obtained discrepancies were +0.49%, -1.98% and -0.60% for Hispanics, blacks, and whites, respectively. Accordingly, these data suggest that the referral process, city-wide, is relatively free of bias.

Examination of the data for total public school handicapped placement reveals a significant overrepresentation of blacks, +7.33%, a negligible

underrepresentation of Hispanics, -1.44%, and a moderate underrepresentation of whites, -3.22%. It is noteworthy that the over-representation of blacks is even larger when the comparison population is their percentage of the total referrals to COH (+9.33%). This is an even more suggestive indicator that the evaluation and placement process is the prime contributor to the over-representation of blacks in public school special education programs.

The data for publicly funded private school placements indicate a contradictory pattern with Hispanics highly underrepresented, -16.79%, blacks moderately underrepresented, -6.69%, and whites overwhelmingly overrepresented, +28.07%. Comparisons between the representation of each ethnic group in public and private placements reveal that: 1) Hispanics showed a negligible underrepresentation in public school placements but were highly underrepresented in private school placements; 2) blacks were moderately overrepresented in public school programs but moderately underrepresented in private placements; 3) whites were moderately underrepresented in public programs but highly overrepresented in private programs. When public and private placements are aggregated, the total numbers of black and white special education placements become less discrepant from their total population parameters; blacks, however, are still overrepresented in the aggregate data. The aggregate data indicate that Hispanics are underrepresented in total special education placements.

TABLE 13

COMPARISONS AMONG THE PERCENTAGES OF HISPANICS REFERRED TO COH AND PLACED IN PUBLIC AND PRIVATE PROGRAMS FOR THE HANDICAPPED (OCTOBER 1979)

Population	Relative % Hispanics	Total Public School	Referrals to COH	Total Handicapped Public	Total Handicapped Private	Total Handicapped Public & Private
		32.60	33.10	31.16	15.81	29.01
Total Public School	32.60	———	+ 0.49	- 1.44	-16.79	- 3.59
Referrals to COH	33.10		———	- 1.94	-17.29	- 4.09
Total Handicapped Public	31.16			———	-15.35	- 2.15
Total Handicapped Private	15.81				———	+13.20
Total Handicapped Public and Private	29.01					———

Table entries represent the over- or underrepresentation of Hispanics in the column populations relative to the row populations. For example, Hispanics comprise .49% more of the total population of referrals to COH than of the total public school population.

TABLE 14

COMPARISONS AMONG THE PERCENTAGES OF BLACKS REFERRED TO COH AND PLACED IN PUBLIC AND PRIVATE PROGRAMS FOR THE HANDICAPPED (OCTOBER 1979)

Population	Relative % black	Total Public School	Referrals to COH	Total Handicapped Public	Total Handicapped Private	Total Handicapped Public & Private
		37.78	35.80	45.13	30.31	43.05
Total Public School	37.78	——	- 1.98	+ 7.33	- 6.69	+ 5.52
Referrals to COH	35.80		——	+ 9.33	- 4.69	+ 7.25
Total EMR Public	45.13			——	-14.82	- 2.08
Total EMR Private	30.31				——	+12.74
Total EMR Public and Private	43.05					——

Table entries represent the over- or underrepresentation of blacks in the column populations relative to the row populations. For example, blacks comprise 1.98% less of the total population of referrals to COH than of the total public school population.

TABLE 15

COMPARISONS AMONG THE PERCENTAGES OF WHITES REFERRED TO COH AND PLACED IN PUBLIC AND PRIVATE PROGRAMS FOR THE HANDICAPPED (OCTOBER 1979)

Population	Relative % Whites	Total Public School	Referrals to COH	Total Handicapped Public	Total Handicapped Private	Total Handicapped Public & Private
		25.80	25.20	22.48	53.87	26.87
Total Public School	25.80	———	- 0.60	- 3.32	+28.07	+ 1.11
Referrals to COH	25.20		———	- 2.72	+28.67	+ 1.67
Total Handicapped-Public	22.48			———	+31.39	+ 4.39
Total Handicapped-Private	53.87				———	-27.00
Total Handicapped Public and Private	26.87					———

Table entries represent the over- or underrepresentation of whites in the column populations relative to the row populations. For example, whites comprise .60% less of the total population of referrals to COH than of the total public school population.

These findings suggest that bias, if present, significantly affects the placement process. However, it must be emphasized that aforementioned caveats apply to the interpretation of these data.

In principle, classification and placement are separate decisions. The classification of a child indicates his/her specific disability, the placement specifies the program of intervention most appropriate for meeting the child's educational needs. Although the aforementioned data suggest the possibility of bias in the placement of handicapped children, these data may be confounded by classification bias.

In an effort to partially extricate classification bias from placement bias, the public and private placement data were further analyzed by specific classifications. Table 16, 17 and 18 present these data for children classified as emotionally handicapped; Tables 19, 20 and 21 present the data for the educable mentally retarded. Inspection of the data for Hispanics, Tables 16 and 19, reveals that although there is a 6.44% discrepancy between their representation in the total EH population, public and private combined, there is an approximate 16% discrepancy between their public and private representation in both categories -- 15.76% and 16.26% for the EMR and EH categories, respectively. Accordingly, the potential effect of bias is more substantial in the placement than the classification of Hispanic children. All of the discrepancies for Hispanics are in the direction of underrepresentation. The data available were most complete for these two nosological categories.

Tables 17 and 20 indicate that although black children are significantly overrepresented in public school programs for both emotionally handicapped and educable mentally retarded students, +13.53% and +8.92% for each, respectively, they are significantly underrepresented in private school

programs serving these special children. Moreover, the percentage difference between black representation in public and private EH and EMR placements, 18.41% and 16.20% respectively, is far greater than their overrepresentation in the total populations, public and private combined, for each of these classifications. 9.58% and 5.65%. These data suggest that, although bias may affect the classification of black children, its putative effect upon placement decisions may be even greater.

The analysis of Tables 18 and 21 clearly points toward ethnic disparities in the placement but not the classification of white children. Whites are significantly underrepresented in public school placement for EH and EMR students, -7.68% and -9.79%, respectively, but overwhelmingly overrepresented in private school placements, +27.95% and +28.50%. When the public and private placements for whites are combined, the white representation in the EH population perfectly matches their percentage of the total school population; they are underrepresented by 3.09% in total EMR placements.

Further inspection of these data sheds more light on the loci and, by inference, sources of the observed ethnic over- and underrepresentations in special education placements. The above mentioned observations indicated that, for the EH category, when public and private placement data were combined, white representation, relative to the public special education placements became perfectly proportionate , black overrepresentation declined by 4% to +9.58% and Hispanic underrepresentation increased to -6.44%. These results suggest that any residual ethnic disparities in the classification of students as EH, after the public/private placement factor has been partialed-out, appears to stem from the underclassification of Hispanics, relative to blacks, as EH. In this case the discrepancy appears to be between two minority groups rather than the more frequently encountered minority versus majority group discrepancy.

The data for EMR classifications present a more traditional pattern of disparities in ethnic representation. As previously mentioned, when the public and private placement for EMRs are combined, Hispanic representation, relative to the public special education data, becomes precisely proportionate, black overrepresentation declines by 3.30% to +5.65% and white underrepresentation declines by 6.70% to -3.09%. Accordingly, any residual classification bias for EMRs appears to result from the overclassification of blacks relative to whites.

TABLE 16

COMPARISONS AMONG THE PERCENTAGES OF HISPANICS REFERRED TO COH AND PLACED IN PUBLIC AND PRIVATE PROGRAMS FOR THE EMOTIONALLY HANDICAPPED (EH) (OCTOBER 1979)

Population	Relative % Hispanics	Total Public School	Referrals to COH	Total EH Public	Total EH Private	Total EH Public & Private
		32.61	33.10	29.66	13.40	26.17
Total Public School	32.16	———	+ 0.49	- 2.95	-19.21	- 6.44
Referrals to COH	33.10		———	- 3.44	-19.70	- 6.93
Total EH Public	29.66			———	-16.24	- 3.49
Total EH Private	13.40				———	+12.77
Total EH Public and Private	26.17					———

Table entries represent the over- or underrepresentation of Hispanics in the column populations relative to the row populations. For example, Hispanics comprise .49% more of the total population of referrals to COH than of the total public school population.

TABLE 17

COMPARISONS AMONG THE PERCENTAGES OF BLACKS REFERRED TO COH AND PLACED IN PUBLIC AND PRIVATE PROGRAMS FOR THE EMOTIONALLY HANDICAPPED (EH) (OCTOBER 1979)

Population	Relative % blacks	Total Public School	Referrals to COH	Total EH Public	Total EH Private	Total EH Public & Private
		37.78	35.80	51.31	32.90	47.36
Total Public School	37.78	———	- 1.98	+13.53	- 5.69	+ 9.58
Referrals to COH	35.80		———	+15.51	- 2.90	+11.56
Total EH Public	51.31			———	-18.41	- 3.95
Total EH Private	32.90				———	+14.46
Total EH Public and Private	47.36					———

Table entries represent the over- or underrepresentation of blacks in the column populations relative to the row populations. For example, blacks comprise 1.98% less of the total population of referrals to COH than of the total public school population.

TABLE 18

COMPARISONS AMONG THE PERCENTAGES OF WHITES REFERRED TO COH AND PLACED IN PUBLIC AND PRIVATE PROGRAMS FOR THE EMOTIONALLY HANDICAPPED (EH) (OCTOBER 1979)

Population	Relative % Whites	Total Public School	Referrals to COH	Total EH Public	Total EH Private	Total EH Public & Private
Total Public School	25.75	———	- 0.55%	- 7.68	+27.95	- 0.01
Referrals to COH	25.20		———	- 7.13	+28.50	+ 0.54
Total EH Public	18.07			———	+35.63	+ 7.67
Total EH Private	53.70				———	-27.97
Total EH Public and Private	25.74					———

Table entries represent the over- or underrepresentation of whites in the column populations relative to the row populations. For example, whites comprise .55% less of the total population of referrals to COH than of the total public school population.

TABLE 19

COMPARISONS AMONG THE PERCENTAGES OF HISPANICS REFERRED TO COH AND PLACED IN PUBLIC AND PRIVATE PROGRAMS FOR THE EDUCABLE MENTALLY RETARDED (EMR) (OCTOBER 1979)

Population	Relative % Hispanics	Total Public School	Referrals to COH	Total EMR Public	Total EMR Private	Total EMR Public & Private
		32.61	33.10	36.16	20.40	32.96
Total Public School	32.61	———	+ 0.49	+ 3.55	-12.21	+ 0.35
Referrals to COH	33.10		———	+ 3.06	-12.70	- 0.14
Total EMR Public	36.16			———	-15.76	- 3.20
Total EMR Private	20.40				———	+12.56
Total EMR Public and Private	32.96					———

Table entries represent the over- or underrepresentation of Hispanics in the column populations relative to the row populations. For example, Hispanics comprise .49% more of the total population of referrals to COH than of the total public school population.

TABLE 20

COMPARISONS AMONG THE PERCENTAGES OF BLACKS REFERRED TO COH AND PLACED IN PUBLIC AND PRIVATE PROGRAMS FOR THE EDUCABLE MENTALLY RETARDED (EMR) (OCTOBER 1979)

Population	Relative % black	Total Public School	Referrals to COH	Total EMR Public	Total EMR Private	Total EMR Public & Private
		37.78	35.80	46.70	30.50	43.43
Total Public School	37.78	———	- 1.98	+ 8.92	- 7.28	+ 5.65
Referrals to COH	35.80		———	+10.90	- 5.30	+ 7.63
Total EMR Public	46.70			———	-16.20	- 3.27
Total EMR Private	30.50				———	+12.93
Total EMR Public and Private	43.43					———

Table entries represent the over- or underrepresentation of blacks in the column populations relative to the row populations. For example, blacks comprise 1.98% less of the total population of referrals to COH than of the total public school population.

TABLE 21

COMPARISONS AMONG THE PERCENTAGES OF WHITES REFERRED TO COH AND PLACED IN PUBLIC AND PRIVATE PROGRAMS FOR THE EDUCABLE MENTALLY RETARDED (EMR) (OCTOBER 1979)

Population	Relative % Whites	Total Public School	Referrals to COH	Total EMR Public	Total EMR Private	Total EMR Public & Private
		25.75	25.20	15.96	49.10	22.66
Total Public School	25.75	———	- 0.55	- 9.79	+23.35	- 3.09
Referrals to COH	25.20		———	- 9.24	+23.90	- 2.54
Total EMR Public	15.96			———	+33.14	+ 6.07
Total EMR Private	49.10				———	-26.44
Total EMR Public and Private	22.66					———

Table entries represent the over- or underrepresentation of whites in the column populations relative to the row populations. For example, whites comprise .55% less of the total population of referrals to COH than of the total public school population.

CONCLUSIONS

In the overview to this paper, it was cautioned that in order to verify the existence of bias in the referral, evaluation and placement of pupils for special education, observed significant over- or underrepresentations of minority group children must be attributable to cific system policies or procedures. Inasmuch as the present study was an attempt to go beyond the documentation of significant representational discrepancies, any conclusions regarding bias must be tentative pending the analysis of data from subsequent causal investigaions.

With the aforementioned caveat in mind we may still infer some intriguing suggestions from the findings reported in this paper. The data suggest that, although bias, if present, may affect the classification of blacks as emotionally handicapped, neurologically impaired-emotionally handicapped and educable mentally retarded, Hispanics and blacks may be more seriously discriminated against in public funding for private school placement. Alternatively, it may be that white students have an unfair advantage in securing public funding for private program placement. In any event, it would appear that attention to the system's policies and procedures that determine whether a student qualifies for public funding for private special education would prove to be the most cost effective, immediate remedy to reduce representational discrepancies in the REP process.

Another important finding of th investigation was that bias, in the statistical sense, did not have a significant effect upon the ethnic composition of referrals for COH evaluation citywide. This finding is contrary to the intuition of many special educators. However, it is important to note that the descriptive content of the referral form, as completed by the referral agent, may have a biasing effect upon the classification and

placement decisions made by COH. Moreover, the reasons for referral to COH may be predominantly behavioral and disciplinary among blacks, while whites are referred primarily for learning problems. These issues will be addressed in a subsequent investigation.

The observation that the SLD Resource Room Program showed significantly less overrepresentation of blacks, in district level and citywide analyses, than the self-contained special education programs may have important implications for the amelioration of representational disparities. At the core of the model for the reorganization of special education, explicated by Dr. Jerry Gross in Special Education in Transition, is the generic resource room. This program serves all mildly and moderately handicapped pupils who do not require self-contained placement. If the ethnic representational patterns observed within districts for the SLD Resource Room Program generalize to generic resource rooms, bias, if present, within public school special education, may be greatly reduced. The existence of remedial and supplementary programs at the local school level may be an important factor in the reduction of the non-essential labeling and segregation of children in self-contained classes. Although this study observed that the ethnic and socioeconomic composition of a school was not related to its referral rate to C.O.H., it was observed that some characteristics of the school environment -- size of register, percentage utilization and reading achievement level -- may affect how readily students with special needs are identified for referral.

One additional finding which ought to be considered in the aforementioned plan for the reorganization of special education is the observation of the significant underrepresentation of Hispanics in the SLD Resource Room Program. If representational disparities in public school special education are to be optimally reduced, the staffing of some generic resource rooms with bilingual/ESL special education staff should prove to be a worthwhile goal.

RECOMMENDATIONS

The principal finding of this study was that the major source of observed significant representational discrepancies of minority ethnic groups in programs for the handicapped was attributable to disparities in the awarding of contract aid funding for private school service. Analysis of the data revealed that minority students were overwhelmingly underrepresented in publicly funded private school placements. Of even greater significance is the observation that the ethnic disparity in the granting of contract aid accounted for most of the discrepancies in the ethnic representation of public school handicapped programs. That is, although representational disparities in referral and classification -- based upon evaluation data -- are minor, disparities in the locus of service, public versus private, are significant and result in an overabundance of minority students in public school special education classes.

These findings lead to the conclusion that to reduce the overrepresentation of minority students in public school special education programs in the most expeditious, cost effective manner, efforts should be directed toward the reduction of the ethnic disparity in contract aid funding. Special education policy decision-makers might explore ways to accomplish this task.

Although the major source of disproportionate ethnic representation in the REP process, as suggested by these data, is attributable to ethnic disparities in private school placements, residual ethnic discrepancies in public school special education programs appear to result from other causes. The finding that, ethnically, the most representative special education program was the SLD Resource Room Program, leads to the recommendation that generic resource rooms for mildly and moderately handicapped pupils, as described in

Dr. Gross' Special Education in Transition, proliferate. It should be noted that the observed underrepresentation of Hispanics in the SLD programs for certain districts leads to the recommendation that the resouce rooms in these specific districts be staffed by bilingual/ESL teachers.

The results of this study further indicate that the largest over-representation of minorities occurred in the programs for the emotionally handicapped and neurologically impaired-emotionally handicapped. To alleviate these disparities it is recommended that (1) more definite standards for the provision of services to pupils who are classified as EH and NI-EH be promulgated and (2) an investigation of the evaluation and classification process for these categories of handicap be conducted. Such an investigation is being conducted by Project REP and will be reported in a subsequent paper.

Finally, since it was observed that certain characteristics of the school enviornment may affect the C.O.H. referral process, it is recommended that environmental factors of the referring school be considered as data in the C.O.H. and SBST assessment and decision-making process.

APPENDIX A

ETHNIC COMPOSITION FORMULA

The following formula was used to estimate the ethnic composition of handicapped children living in each district for each special education program. This formula makes adjustments for students served in one district but residing in other districts. Some of the parameters in the formula were based on statistics obtained from random samples.

$$\hat{P}_{ai} = \frac{P_{ai}n_i + \sum_{i=1}^{32.i}\left(R_{ai}\, n_{32.i}\right) - \sum_{i=1}^{i}\left(R_{a\,(32.i)}\; n_{i.32}\right) \times 100}{n_i + \sum_{i=1}^{} n_{32.i} - \sum_{i=1}^{} n_{i.32}}$$

a = Ethnic Group

i = District

$\hat{P}_{ai}$ = Estimated percentage of handicapped pupils of ethnic group "a" living in district "i".

P_{ai} = Percentage of handicapped pupils of a race served in district "i".

n_i = Number of handicapped pupils served in district "i".

R_{ai} = Percentage of referrals of race "a" in district "i".

$n_{32.i}$ = Number of handicapped pupils who live in district "i" but are served in other districts.

$R_{a(32.i)}$ = Percentage of referrals of race "a" in districts other than "i".

$n_{i.32}$ = Number of handicapped served in "i" but living in other districts.

APPENDIX B

DATA COLLECTION SHEET

Project REP
Data Collection Sheet
May 21 - June 15, 1979

NOTE: These sheets must be retained until further notice.

District_____ Week of_____to_____

SOCIOECONOMIC STATUS DATA

(1) TCH Case Number	(2) REP I.D. # (Leave Blank)	(3) ETHNIC STATUS	(4) # of Parents/ Guardians in home	(5) # employed	(6) Occupation (Specify full title)*	(7) Social impress (Please
1.			1_____ 2_____	0_____ 1_____ 2_____	1_____ 2_____	lower_ middle upper_
2.			1_____ 2_____	0_____ 1_____ 2_____	1_____ 2_____	lower_ middle upper_
3.			1_____ 2_____	0_____ 1_____ 2_____	1_____ 2_____	lower_ middle upper_
4.			1_____ 2_____	0_____ 1_____ 2_____	1_____ 2_____	lower_ middle upper_
5.			1_____ 2_____	0_____ 1_____ 2_____	1_____ 2_____	lower_ middle upper_
6.			1_____ 2_____	0_____ 1_____ 2_____	1_____ 2_____	lower_ middle upper_
			1_____ 2_____	0_____ 1_____ 2_____	1_____ 2_____	lower_ middle upper_
			1_____	0_____	1	lower

Instructions for CCH Social Workers

Period of Data Collection: May 21 - June 15, 1979
During this 4 week period, social workers in all CCH units will be recording the following information at the conclusion of each intake interview:

Column 1. Enter the CCH case number (The number used to file cases in your unit). Do not include any names. These data are anonymous.

Column 3. Enter the appropriate letter which corresponds to the ethnic status of the family. Use observation, not direct questioning.

a. Black
b. Puerto Rican
c. Other Hispanic
d. White
e. Other - Specify

Column 2. Leave blank. Project REP I.D. number will be entered in this column.

Column 4. Place a check next to the number of parents/guardians with whom the child resides. If child lives in a residential agency or group home do not complete items 4-7.

Column 5. Place a check next to the number of parents/guardians who are employed and contributing to family support.
Example: If a parent who is not living with the child contributes to his/her support through child support payments include that parent in the number employed.

Column 6. List the occupation of each parent/guardian counted in column 5.

Column 7. Record your general impression as to whether this family is: lower income, middle income, upper income.

It is important that you record this information directly at the conclusion of each interview so that the data collected are accurate and complete. At the end of each week please turn in the data collection form to your chairperson.

NOTE: THESE FORMS WILL BE KEPT ON FILE IN YOUR UNIT BY THE CCH CHAIRPERSON.

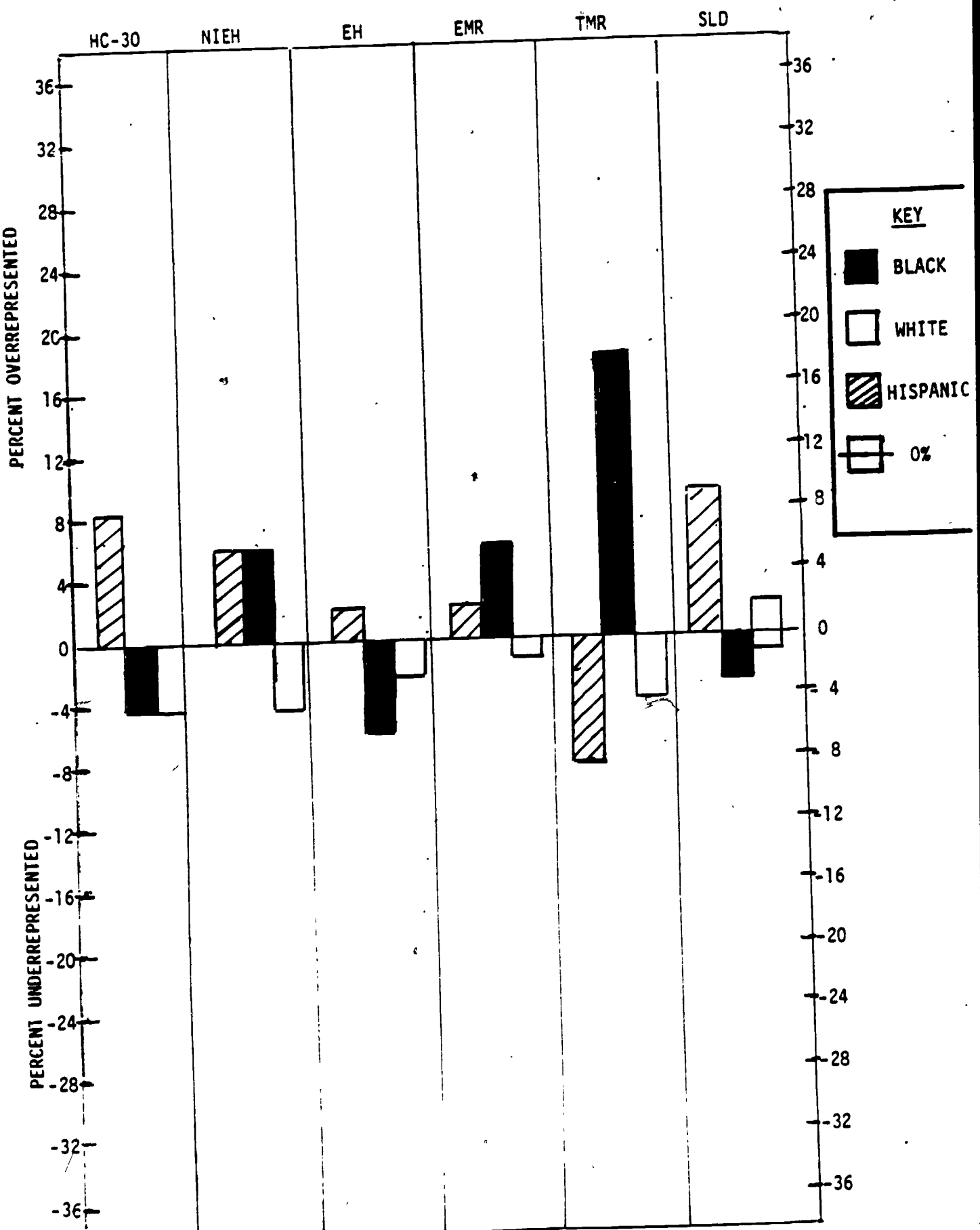
APPENDIX C

ETHNIC REPRESENTATION OF PUBLIC SCHOOL PROGRAMS

FOR THE HANDICAPPED BY DISTRICT

Note: Histograms indicate the percentage of over- or underrepresentation of each ethnic group in each program for each district.

DISTRICT 1


HC-30
NIEH
EH
EMR
TMR
SLD
PERCENT OVERREPRESENTED
PERCENT UNDERREPRESENTED
36
32
28
24
20
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12
8
4
0
-4
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-12
-16
-20
-24
-28
-32
-36
KEY
BLACK
WHITE
HISPANIC
0%

DISTRICT 2
HC-30
NIEH
EH
EMR
TMR
SLD
PERCENT OVERREPRESENTED
PERCENT UNDERREPRESENTED
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32
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16
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-28
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-36
KEY
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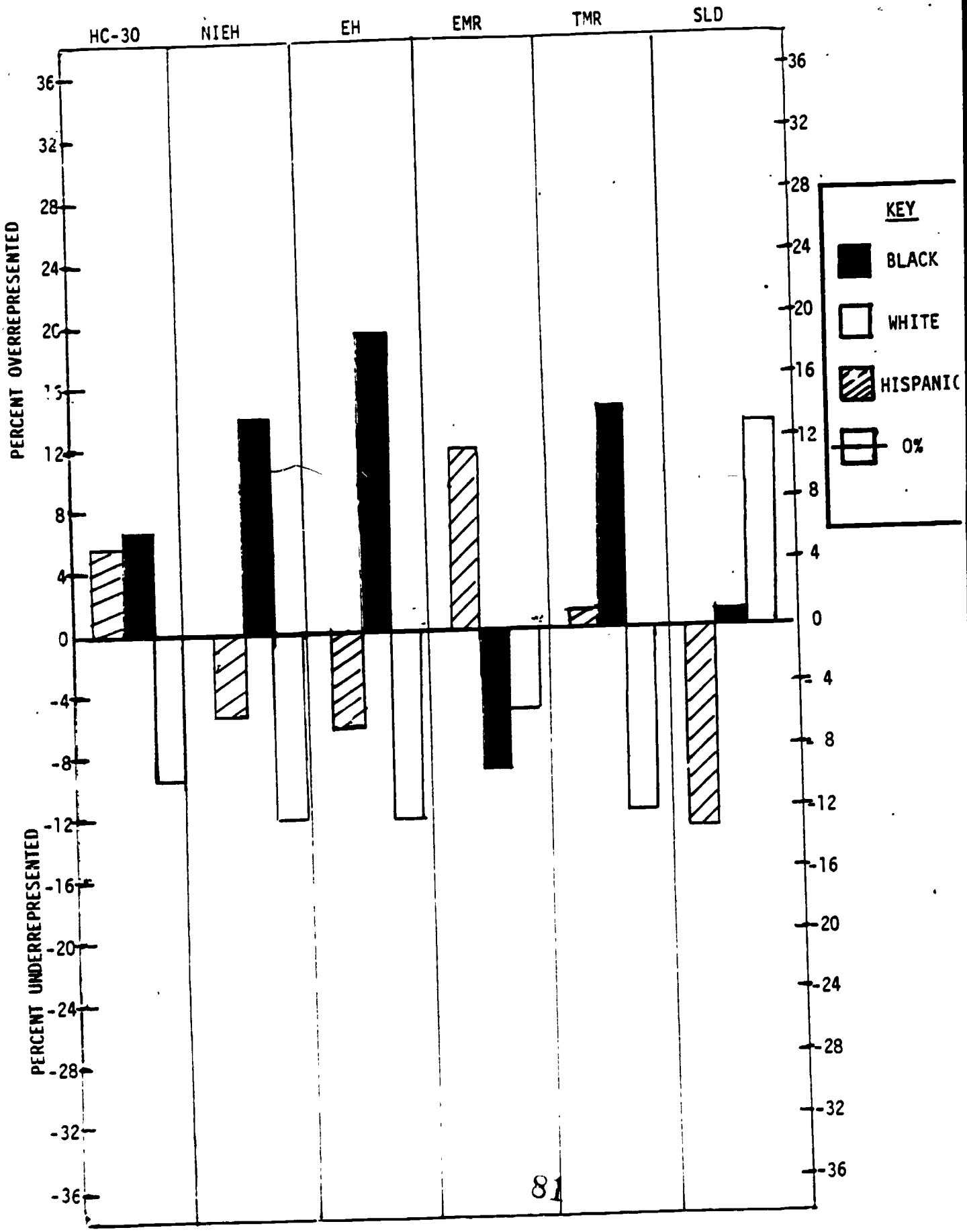
WHITE
HISPANIC
0%

DISTRICT 3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NIEH
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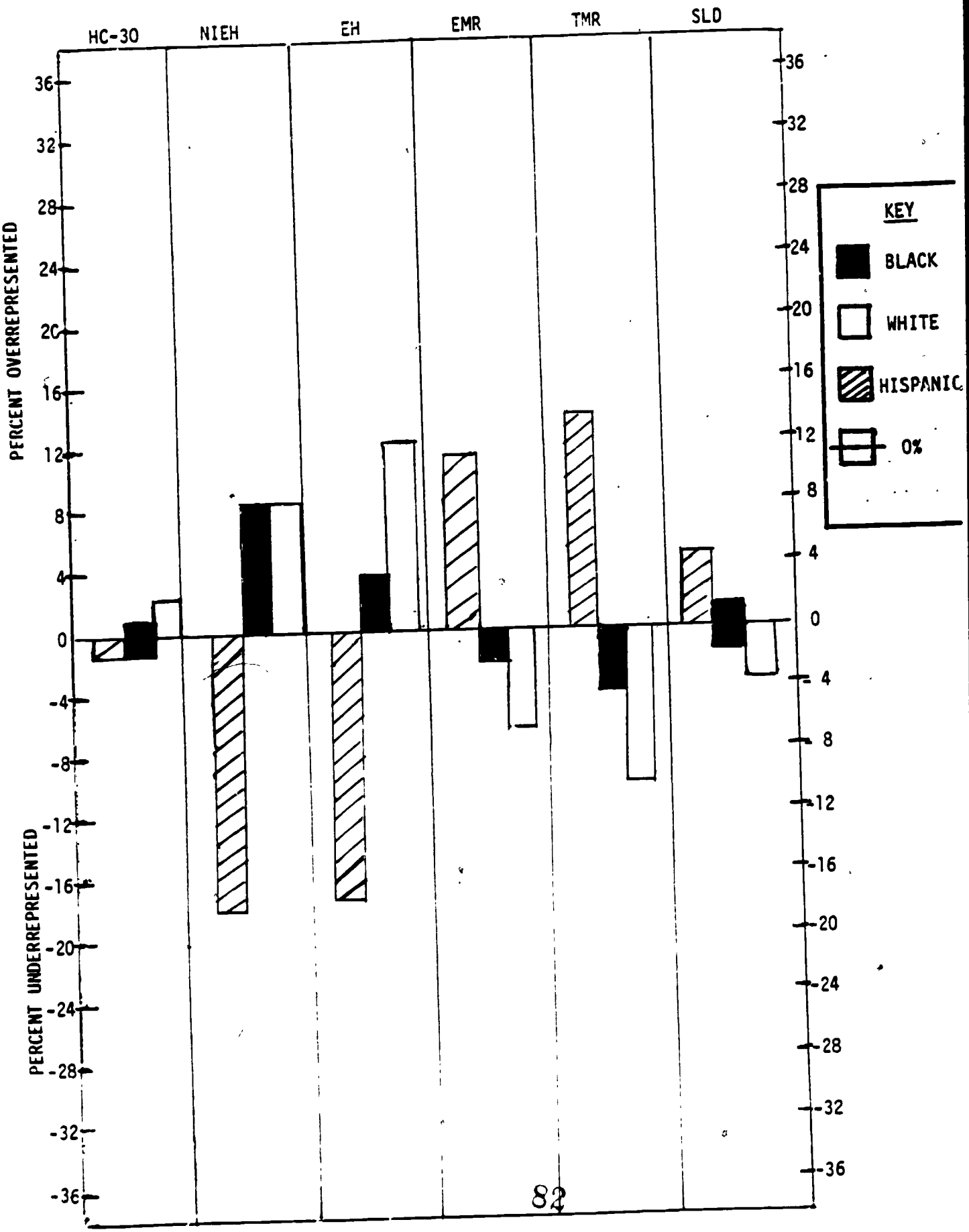
DISTRICT 4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-36
KEY
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HISPANIC
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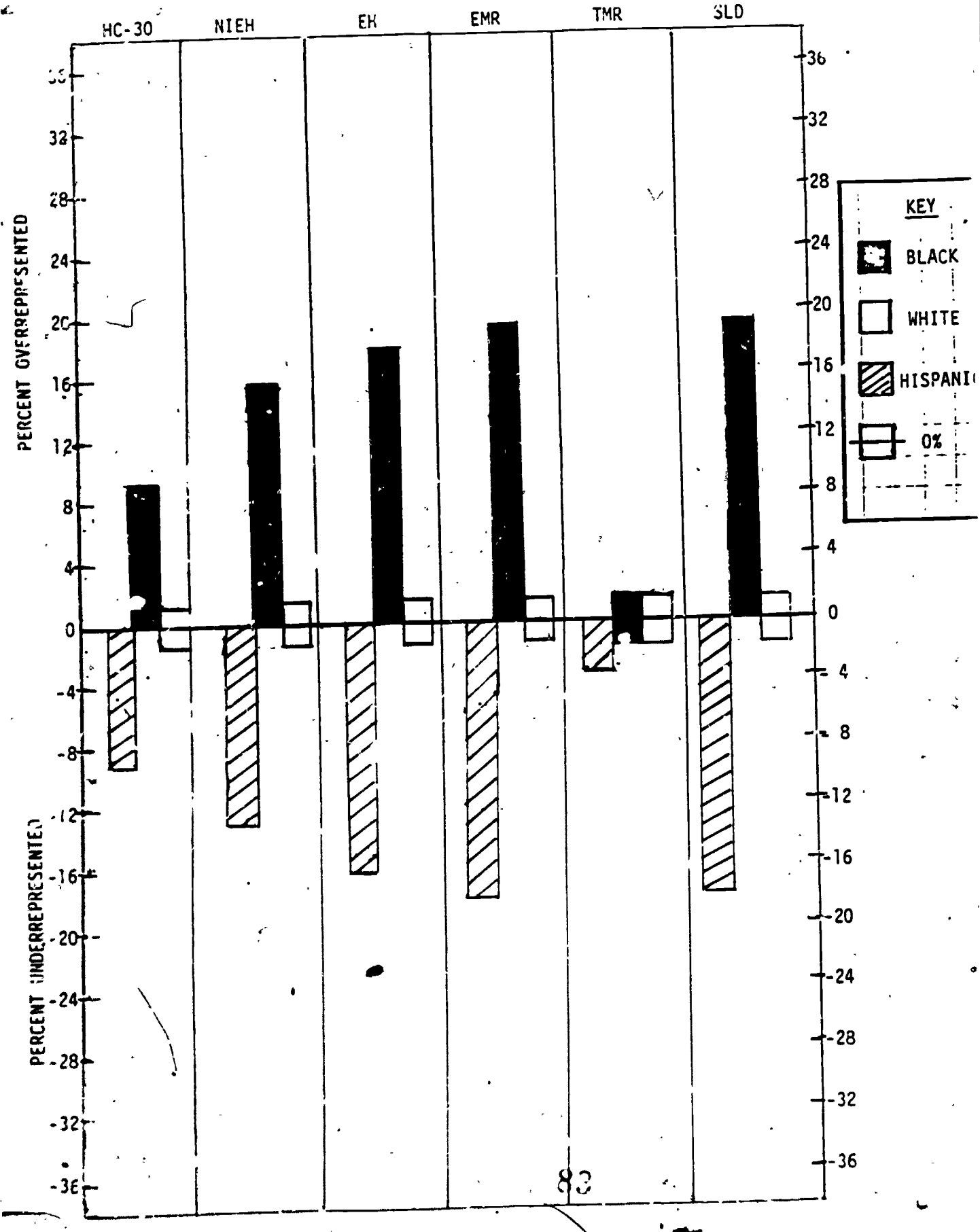
DISTRICT 5


HC-30
NIEH
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PERCENT OVERREPRESENTED
PERCENT UNDERREPRESENTED
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12
16
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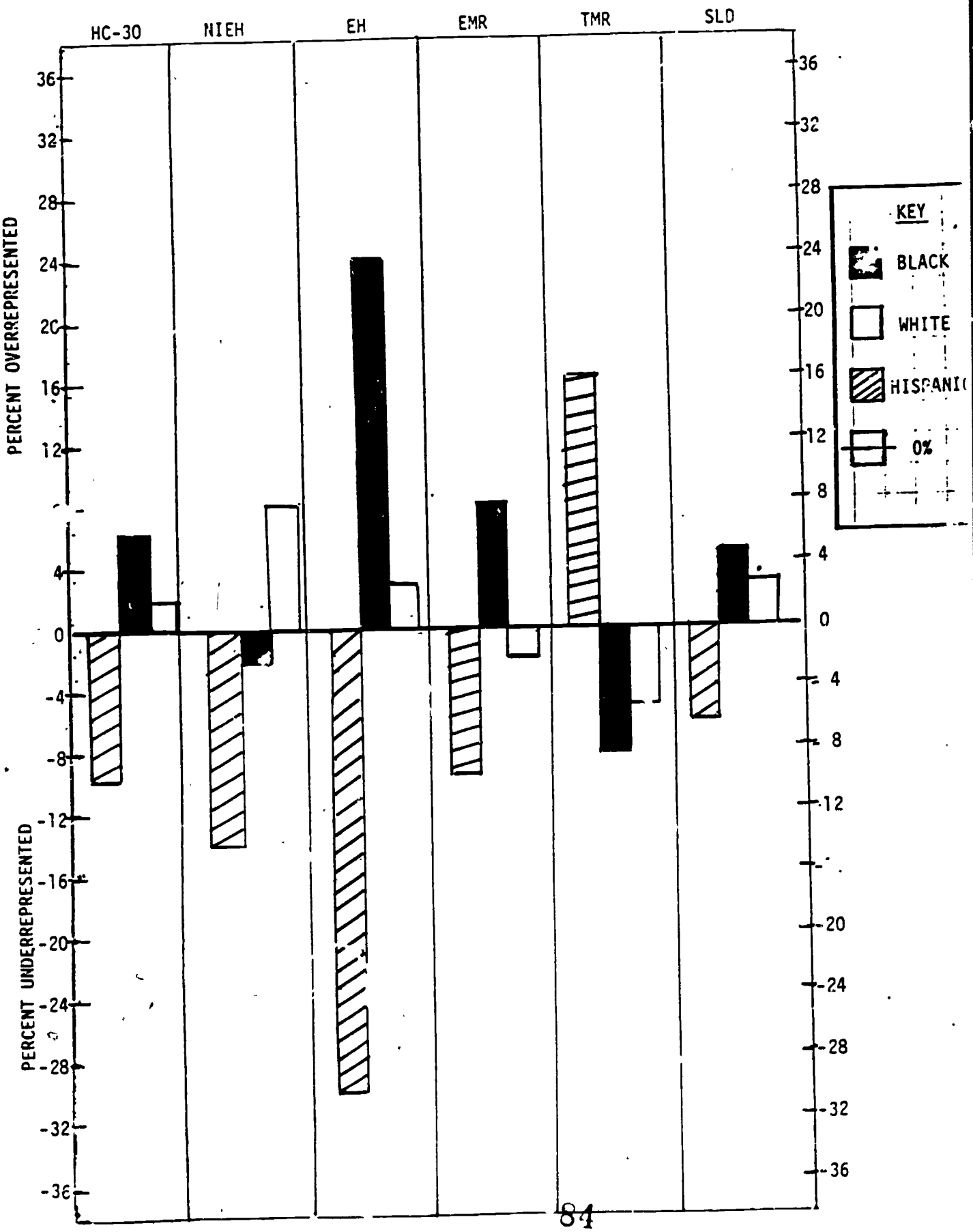
28
32
36
KEY
BLACK
WHITE
HISPANI
0%

DISTRICT 6


HC-30
NIEH
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TMR
SLD
PERCENT OVERREPRESENTED
PERCENT UNDERREPRESENTED
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4
0
-4
-8
-12
-16
-20
-24
-28
-32
-36
KEY
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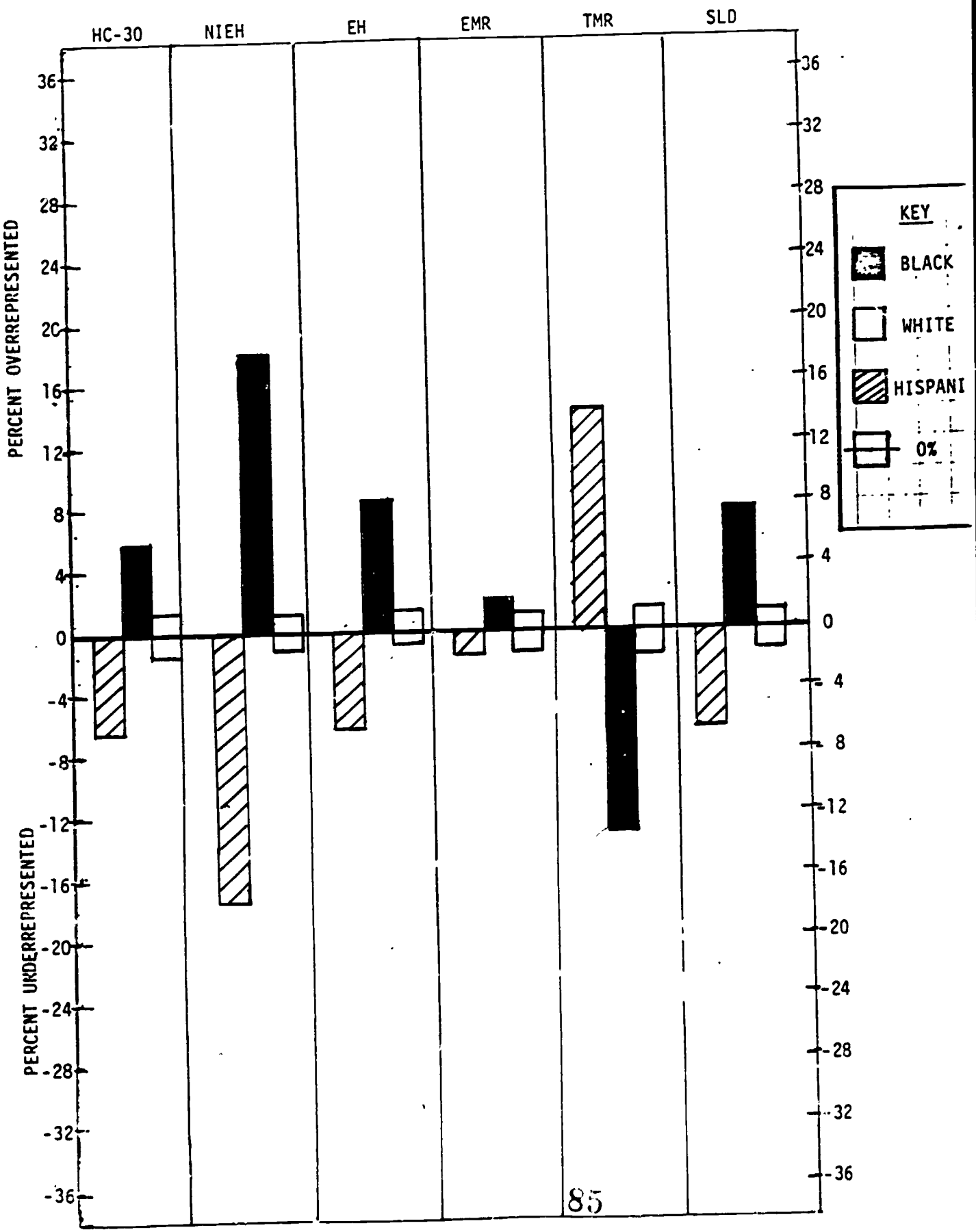
WHITE
HISPANIC
0%

DISTRICT 7


HC-30
NIEH
EH
EMR
TMR
SLD
PERCENT OVERREPRESENTED
PERCENT UNDERREPRESENTED
36
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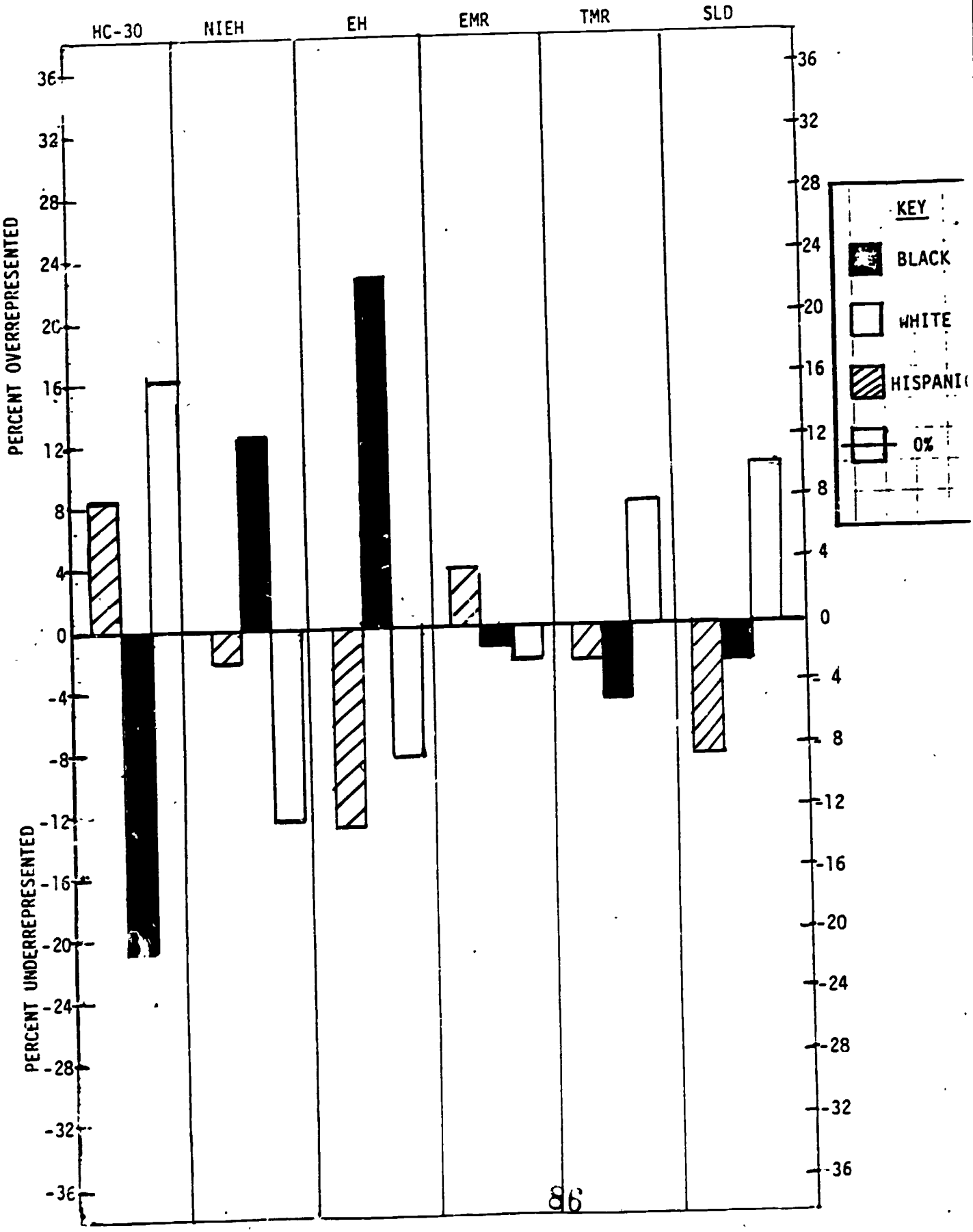
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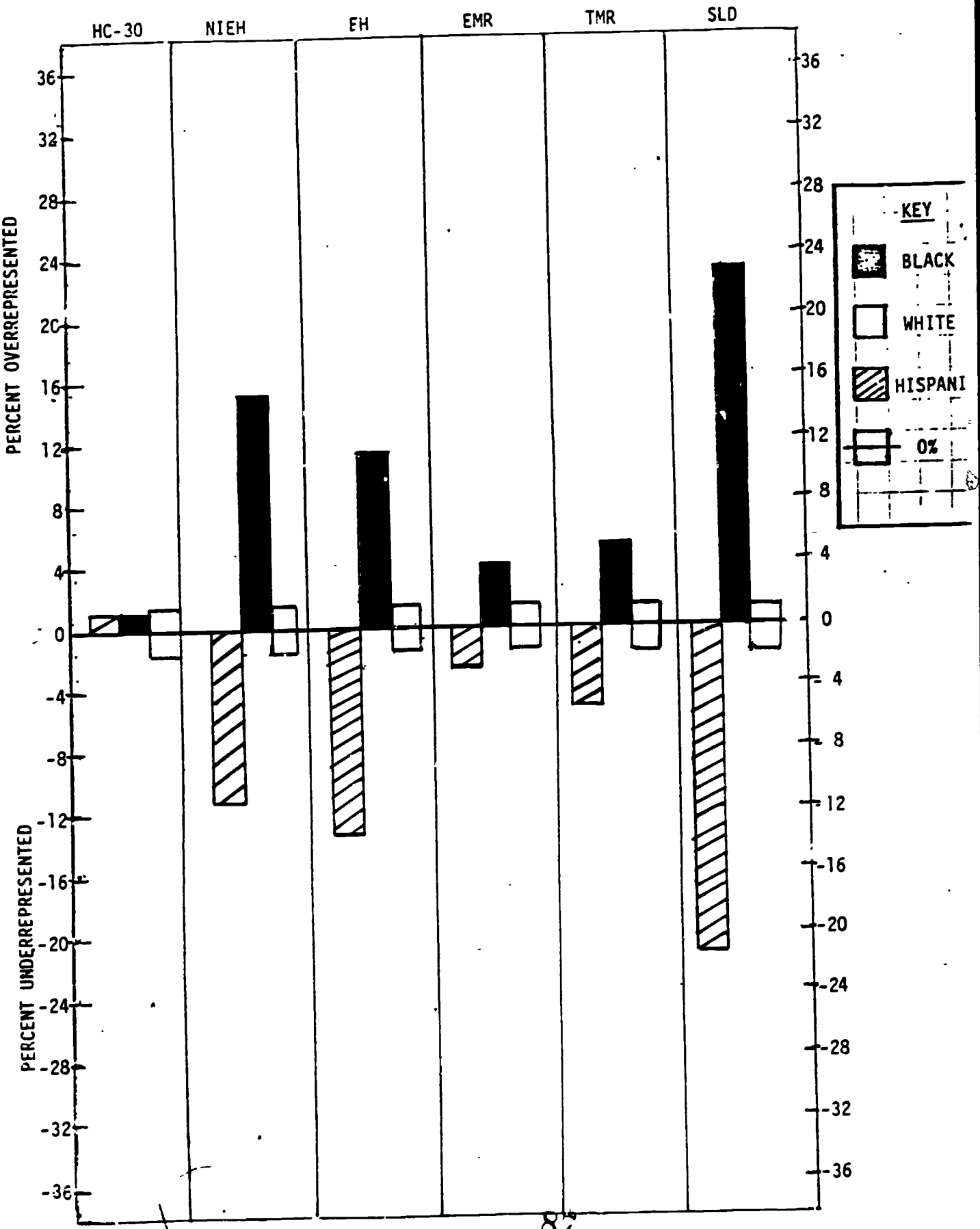
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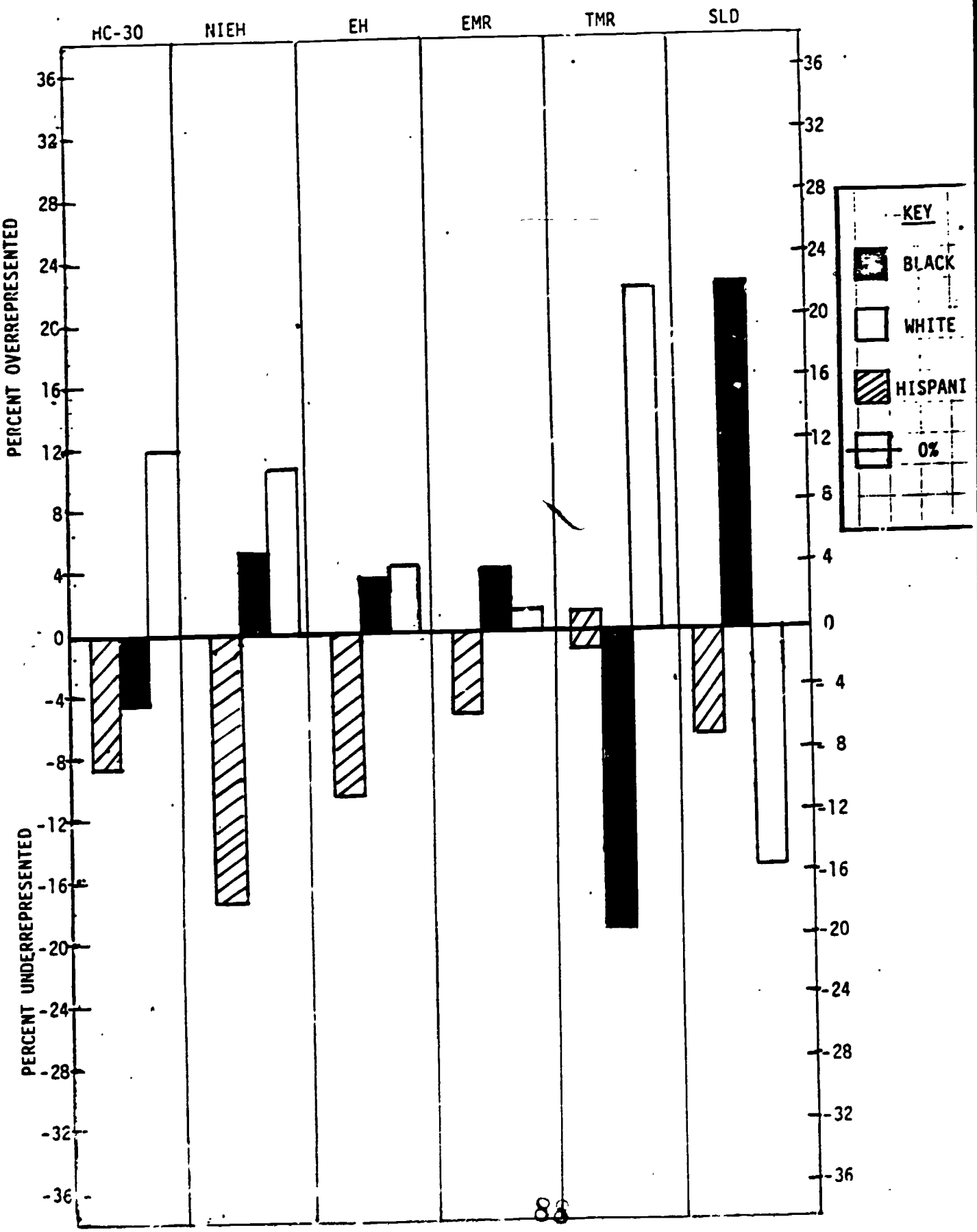
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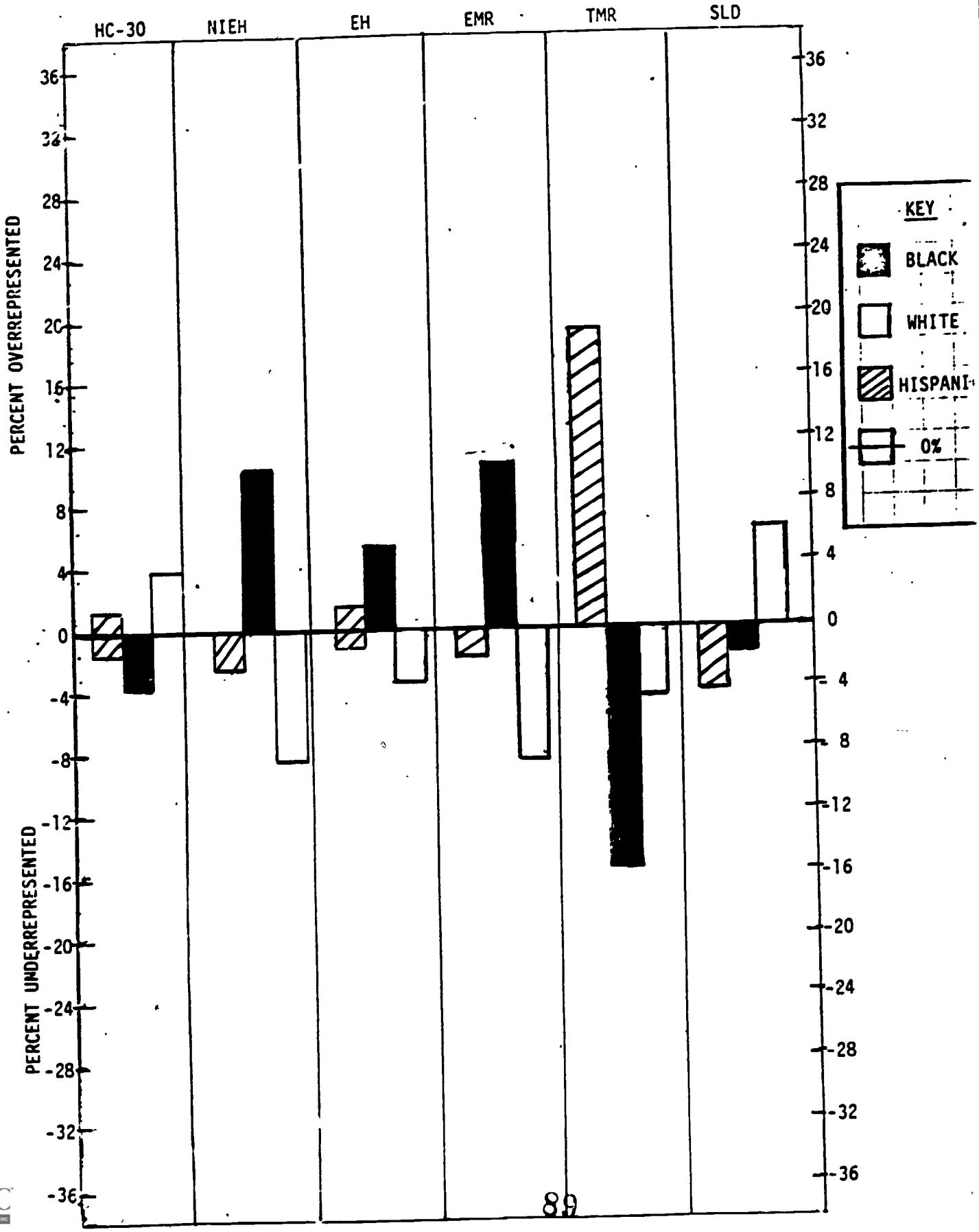
DISTRICT 11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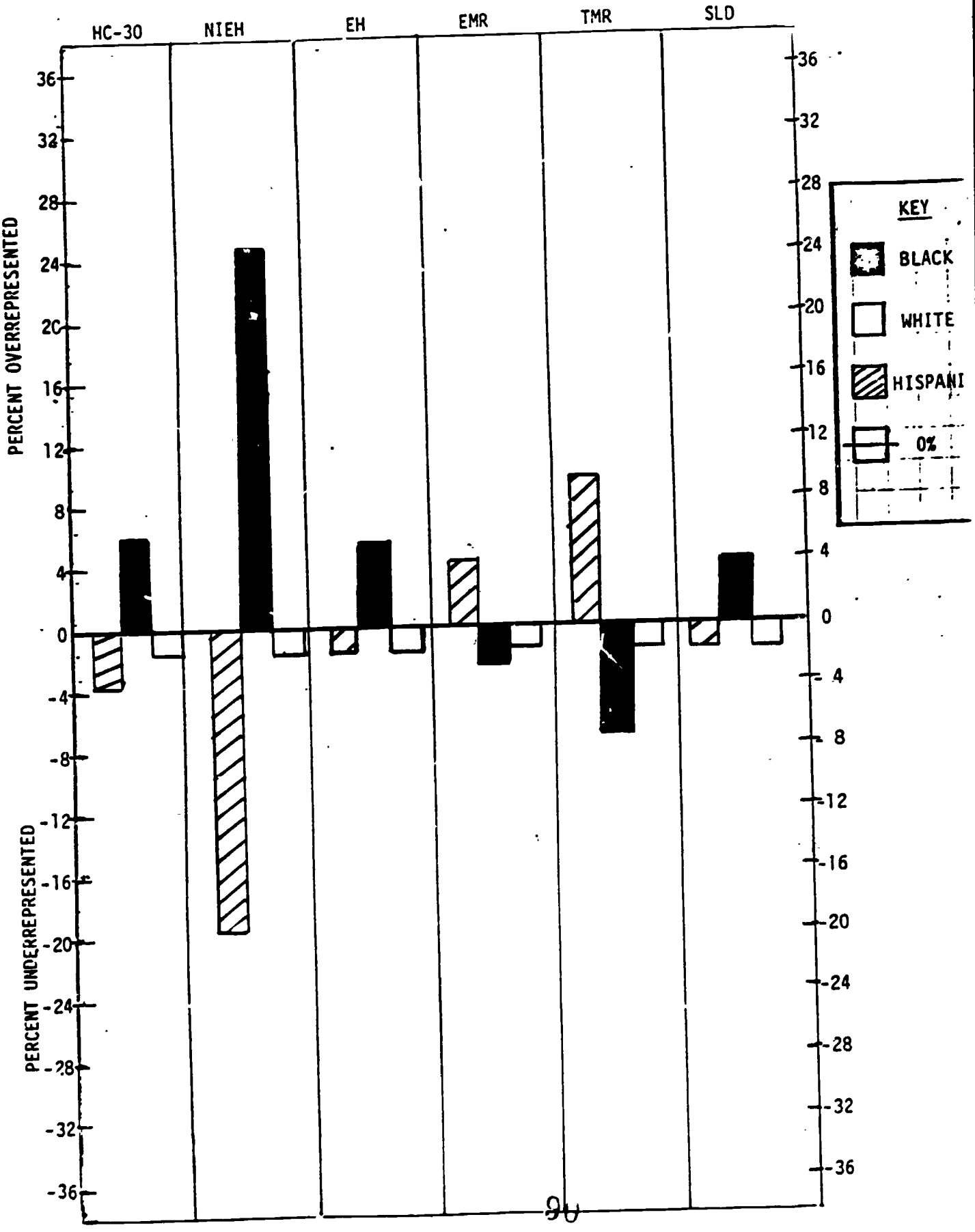
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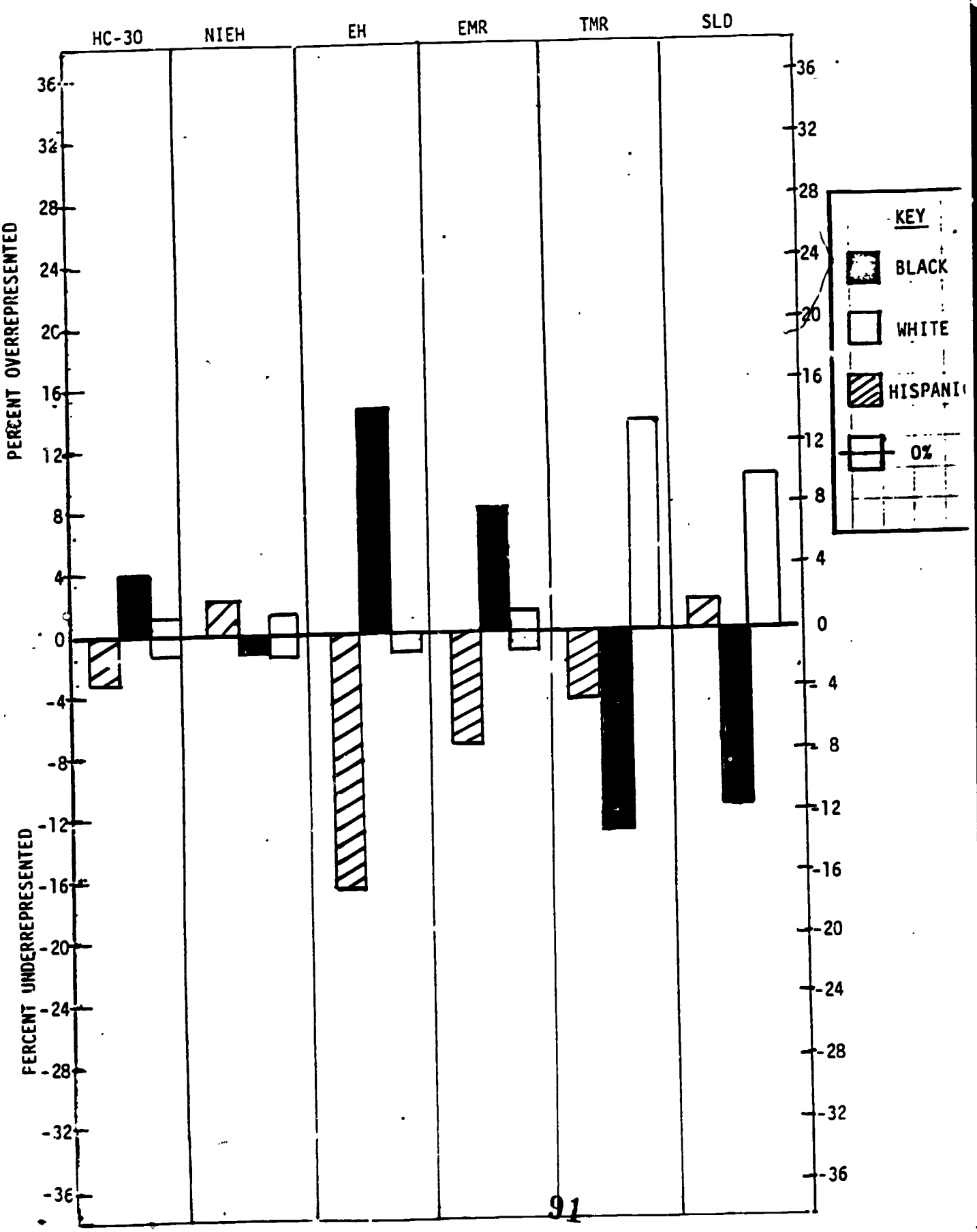
DISTRICT 13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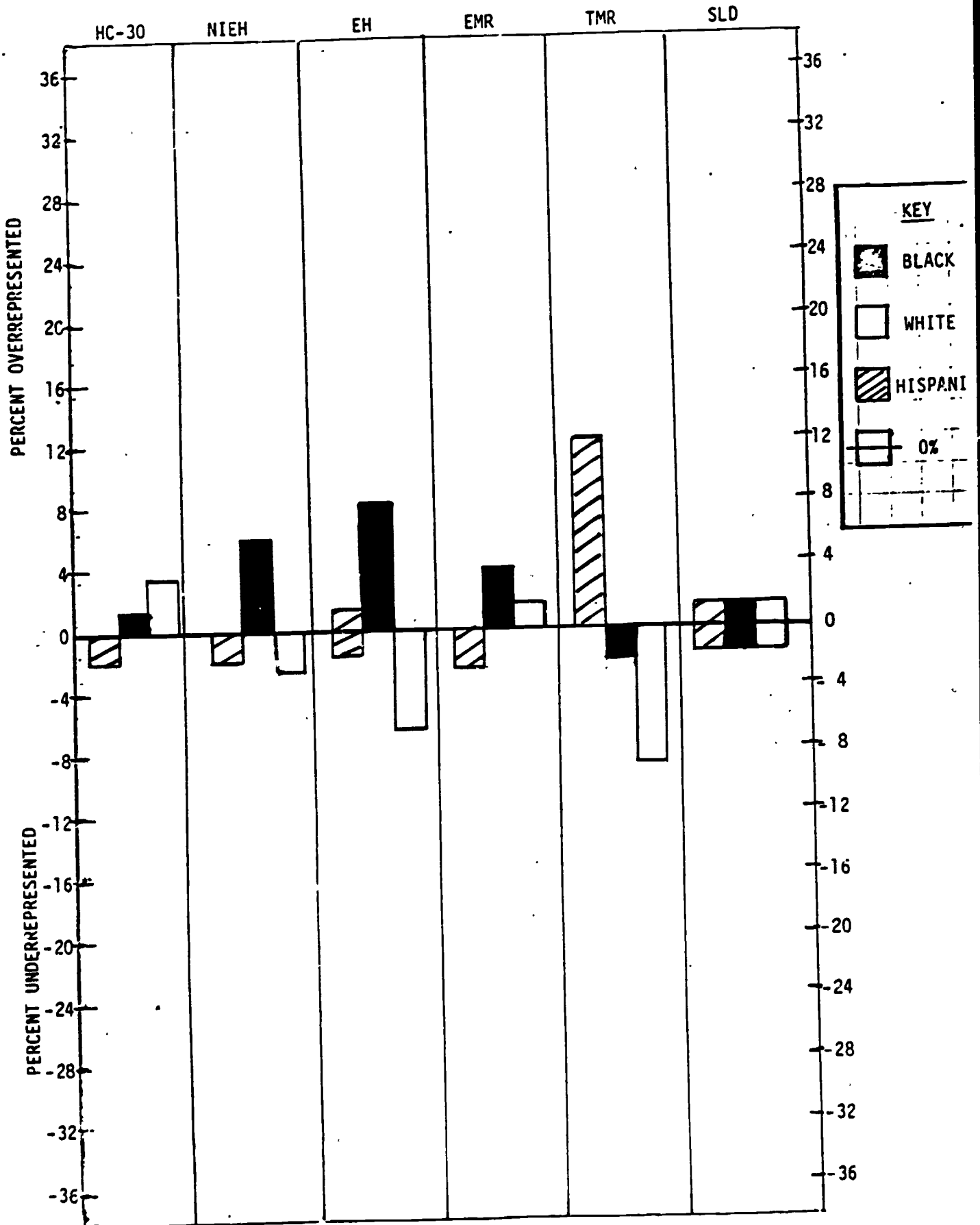
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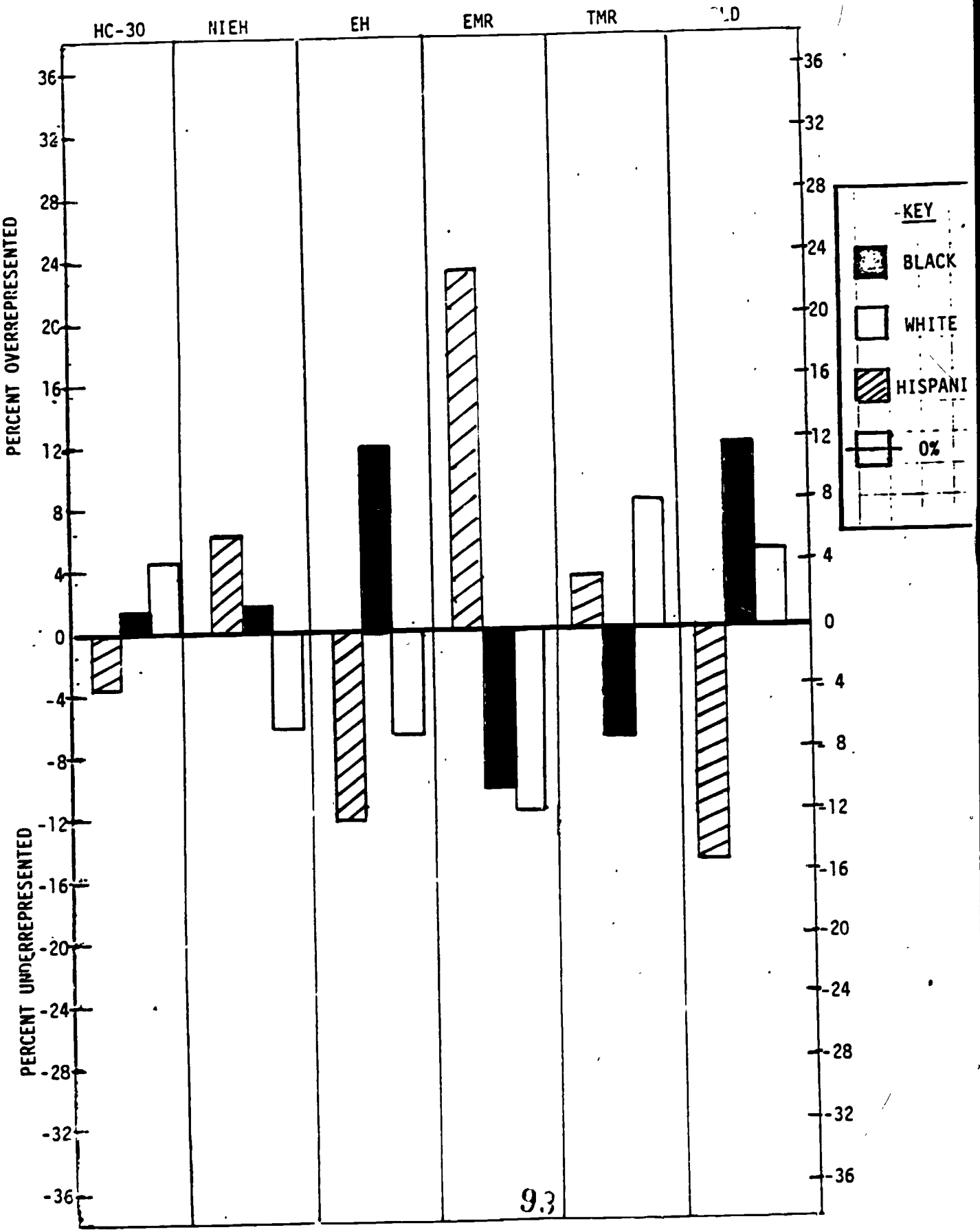
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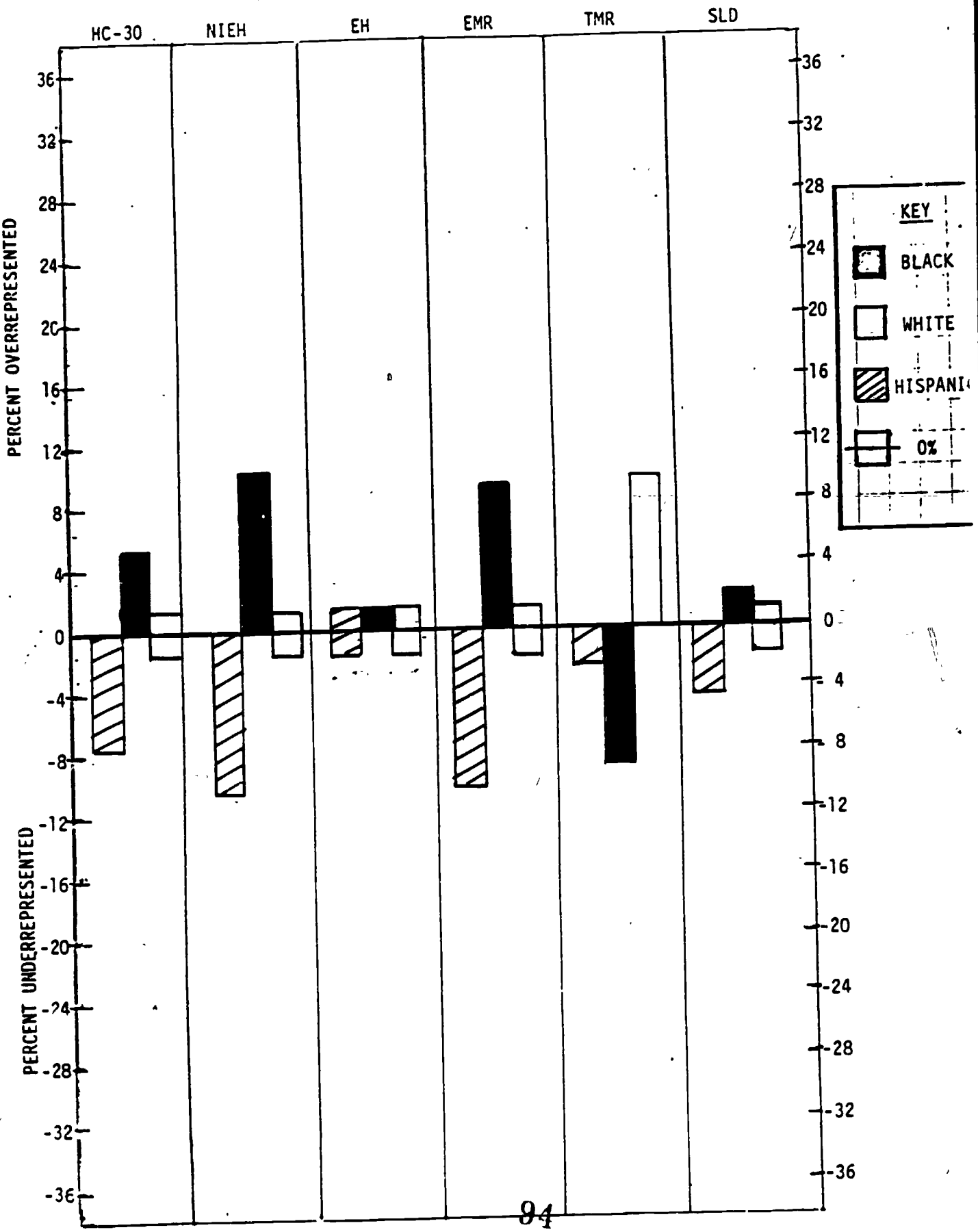
DISTRICT 16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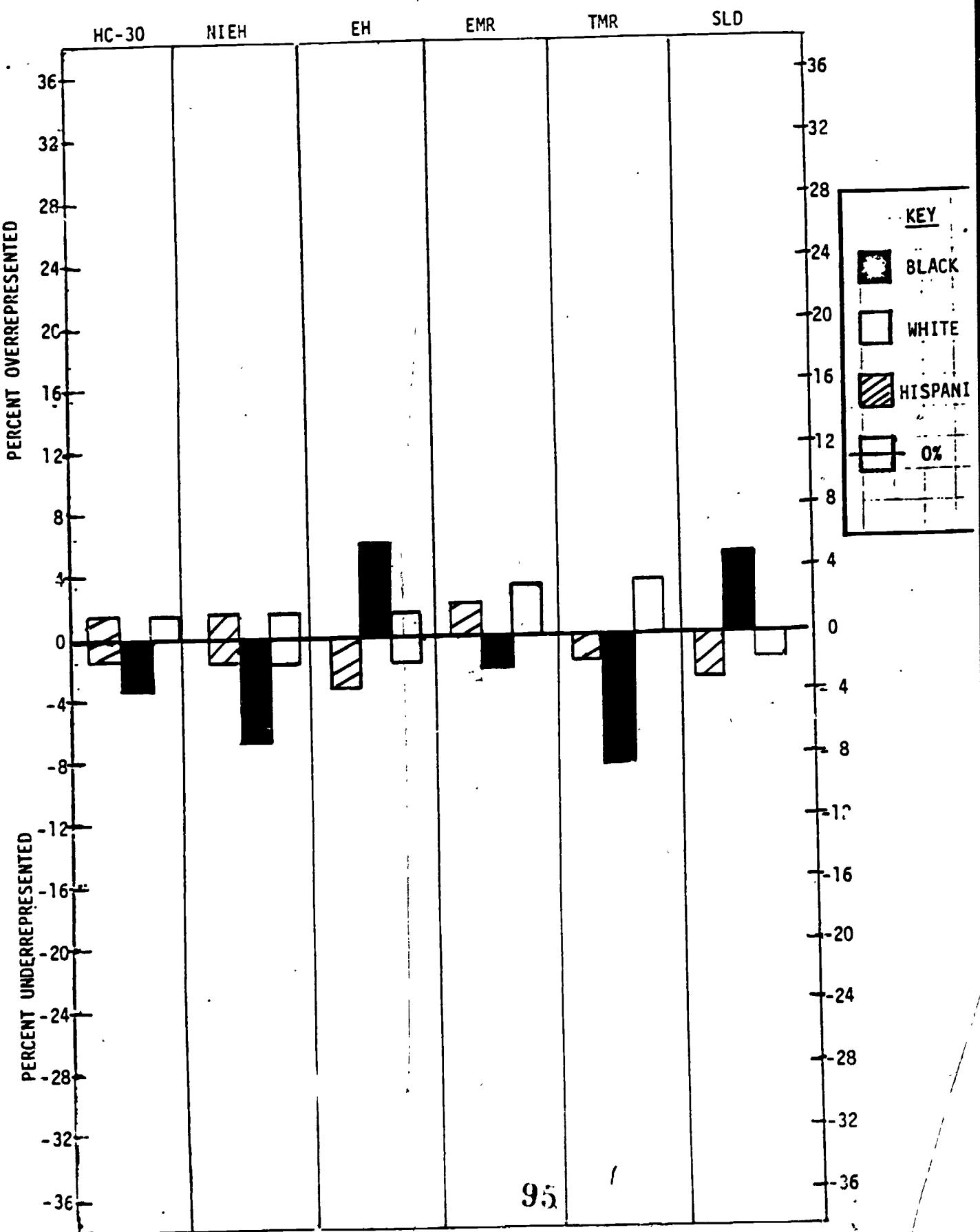
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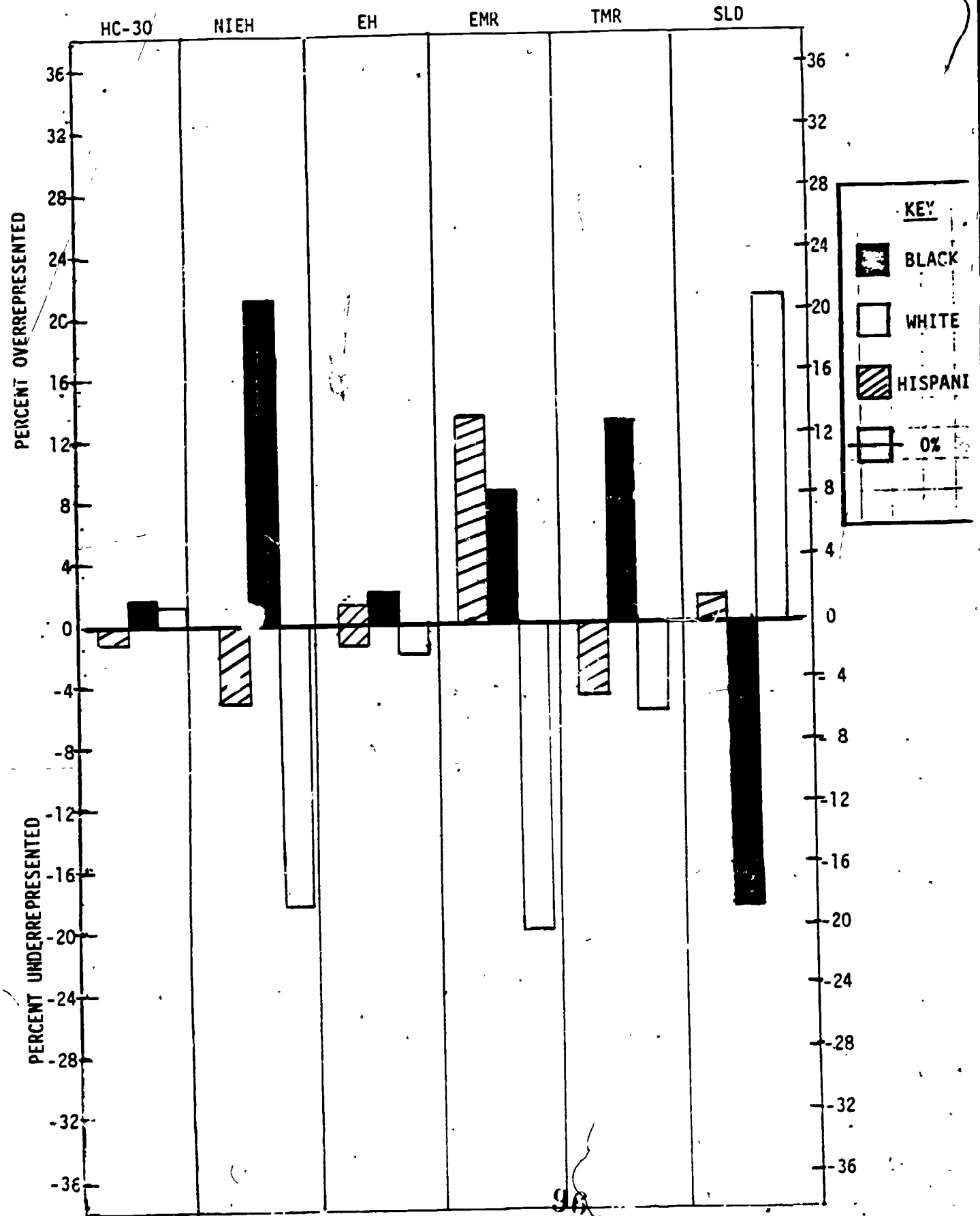
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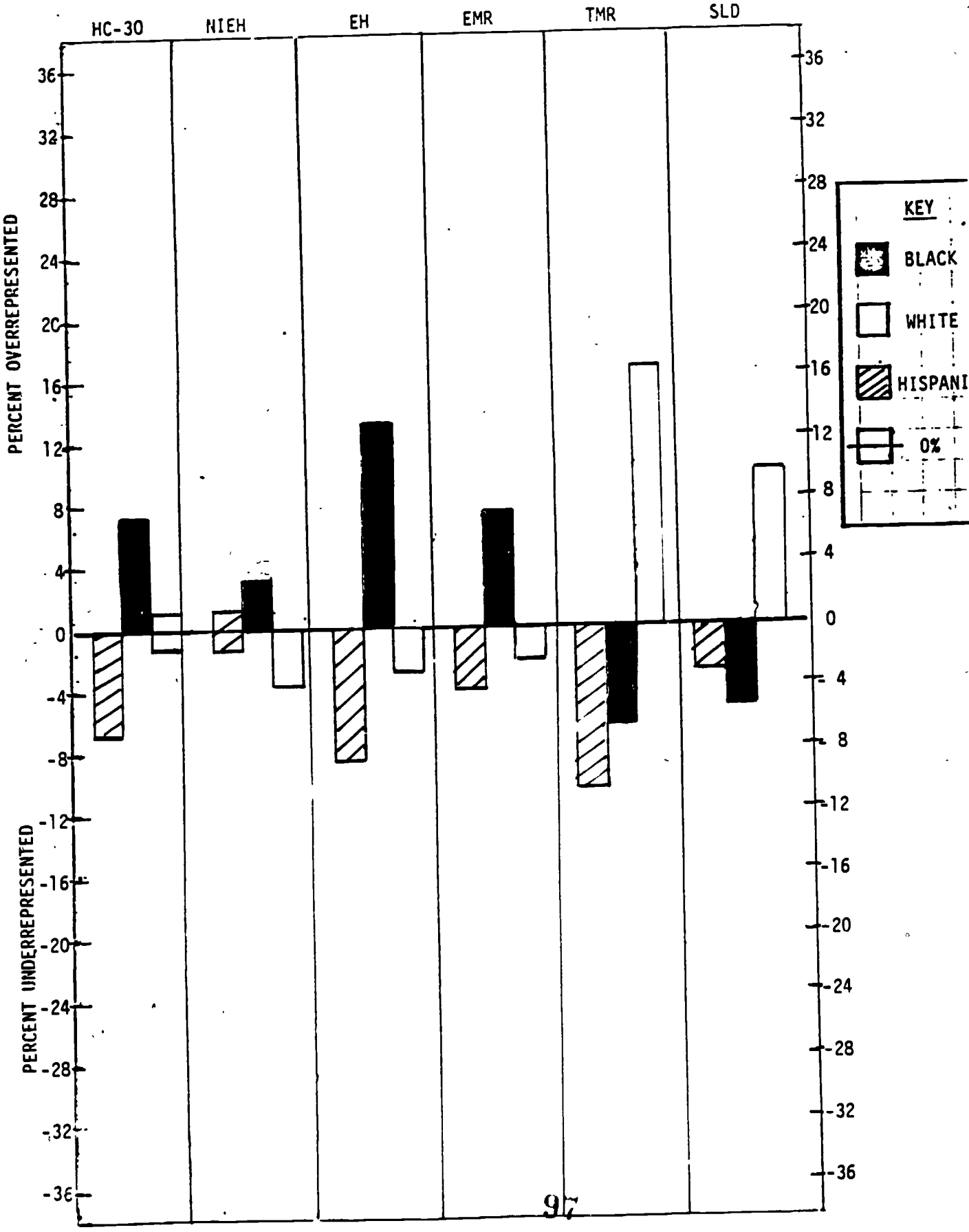
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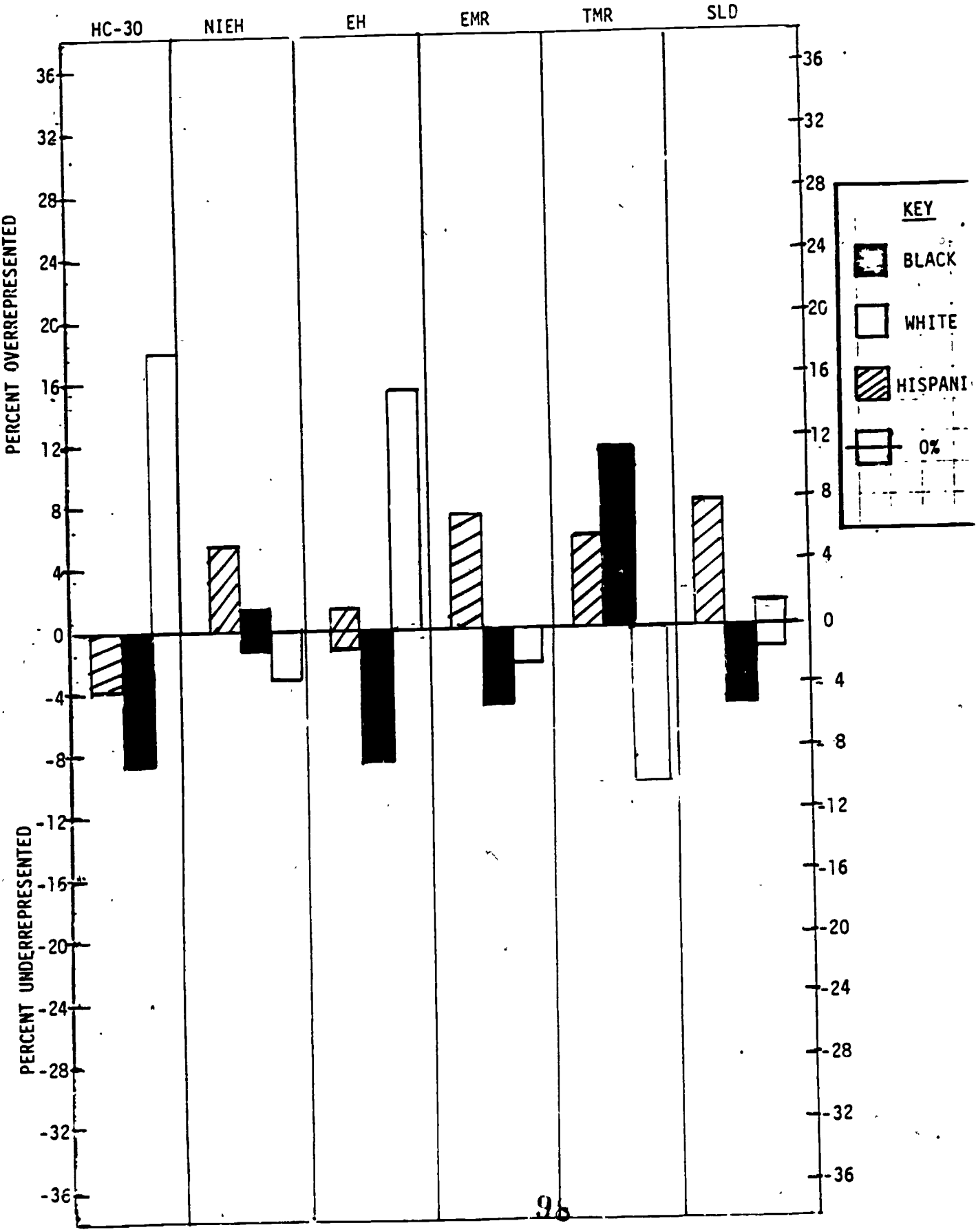
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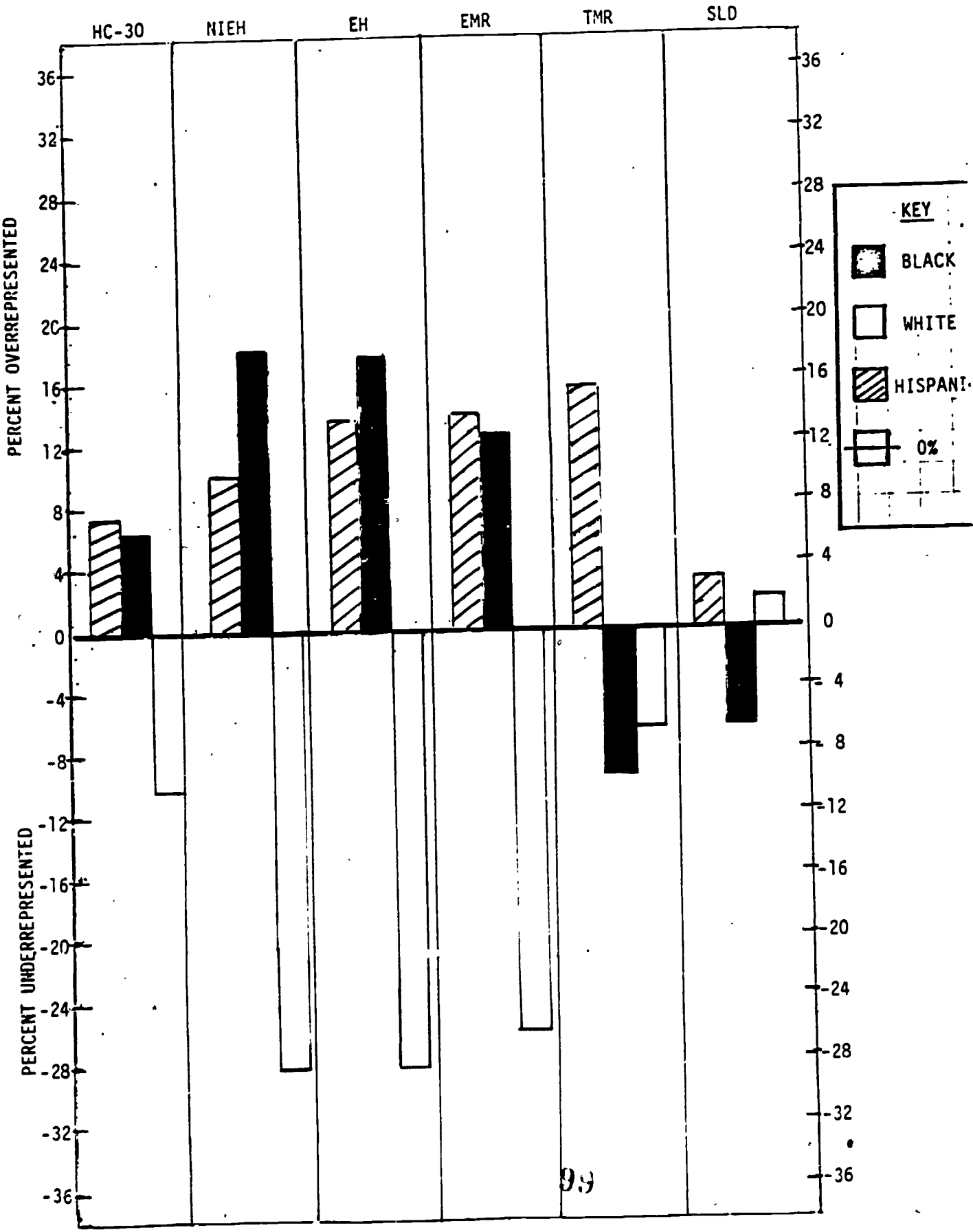
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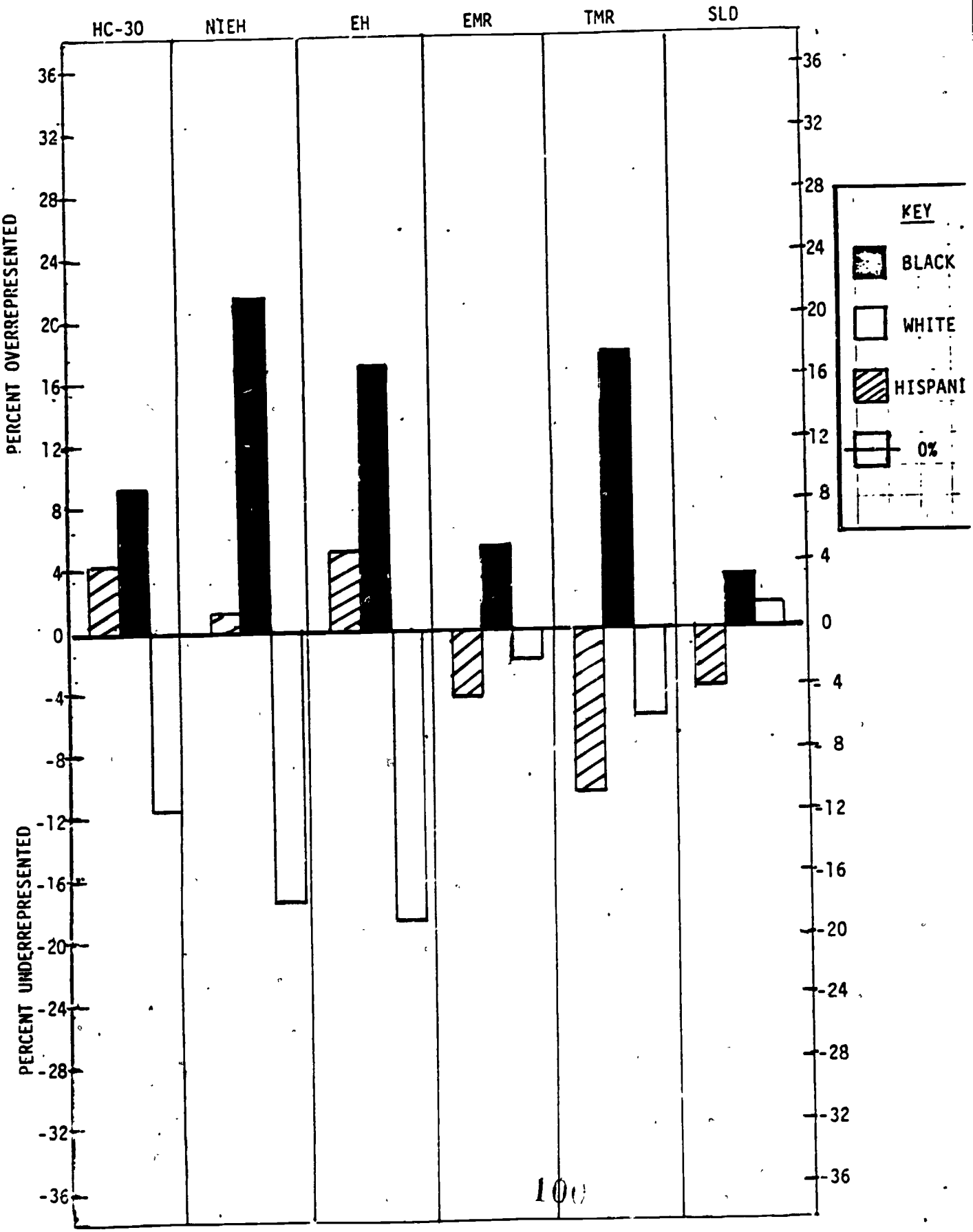
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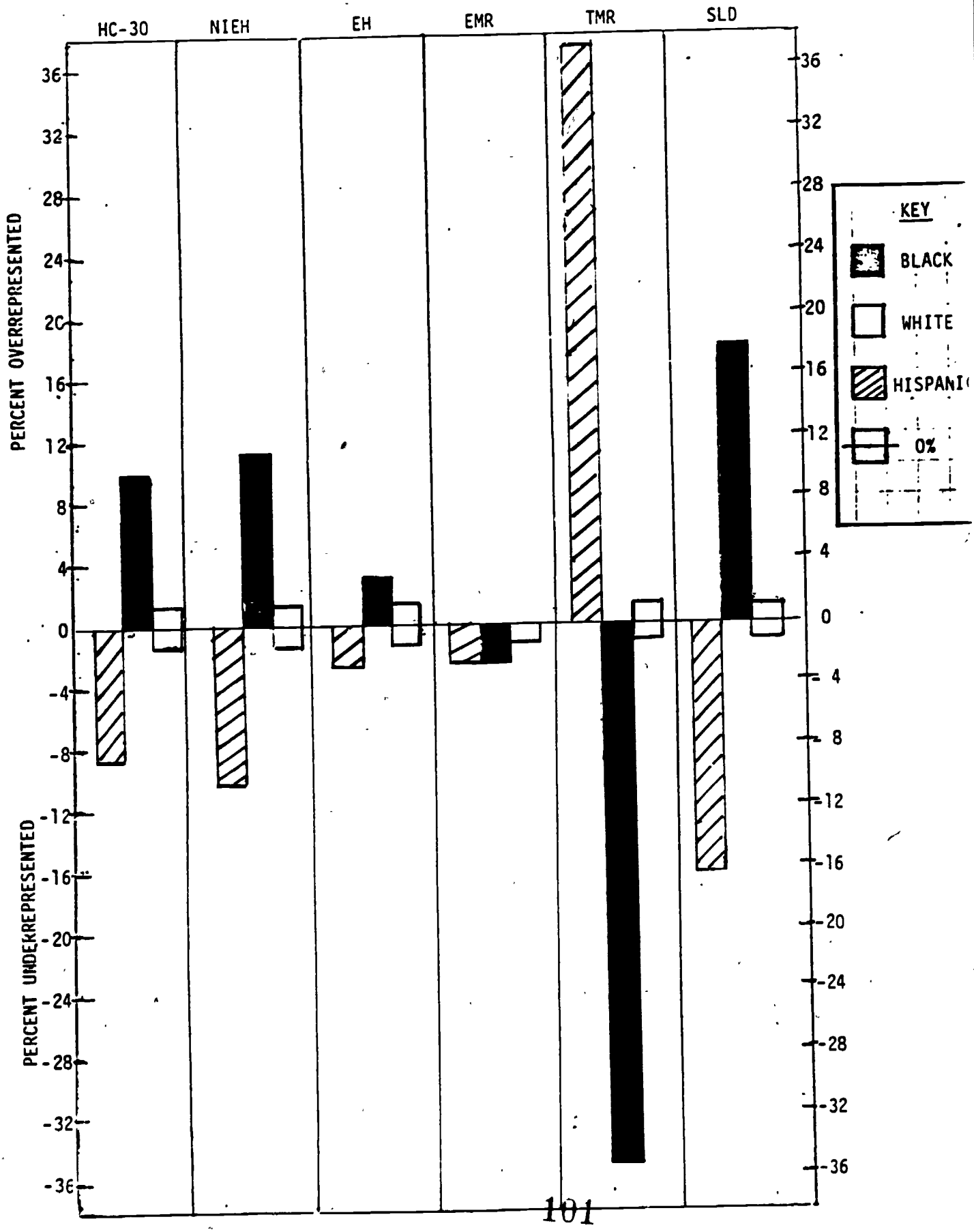
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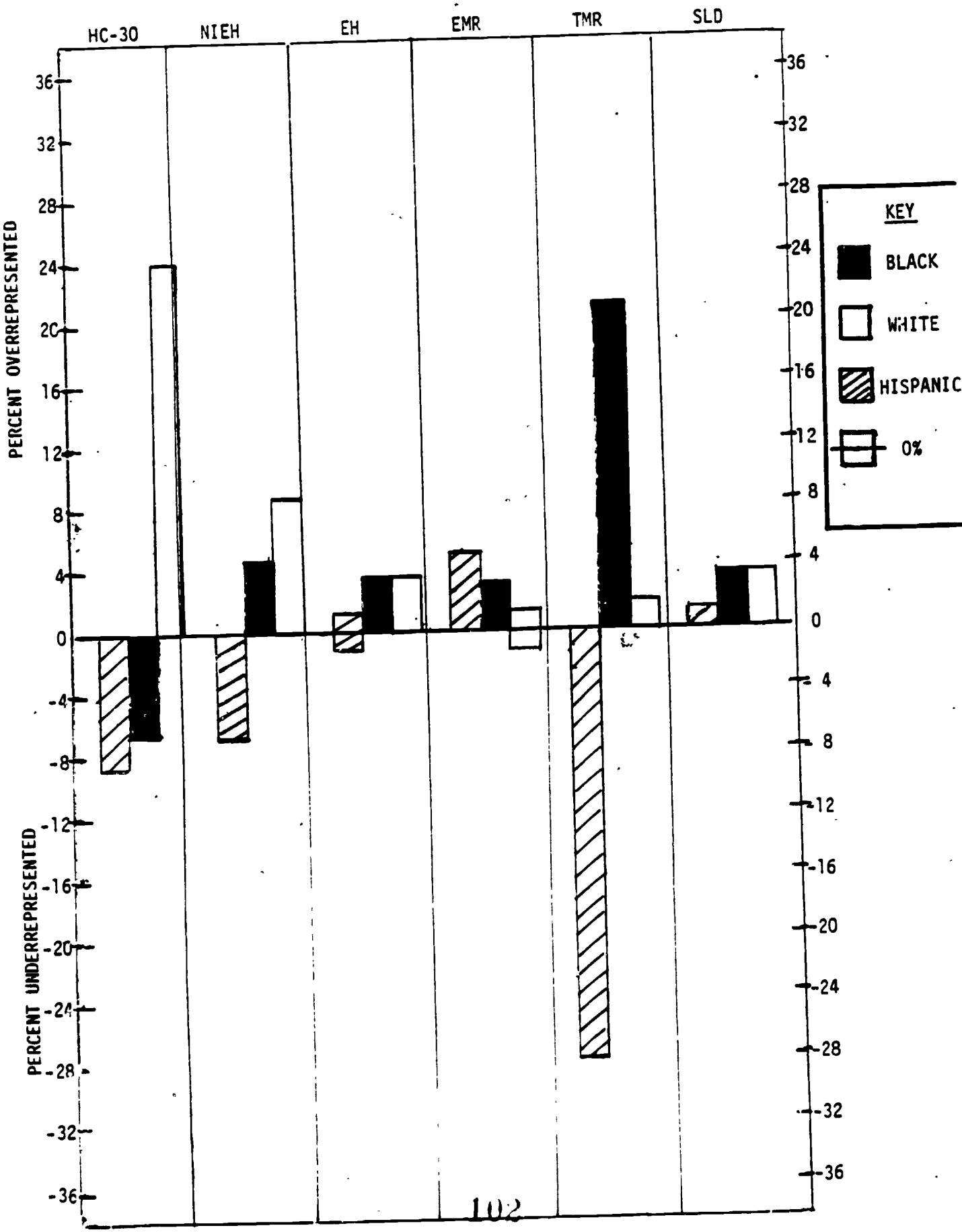
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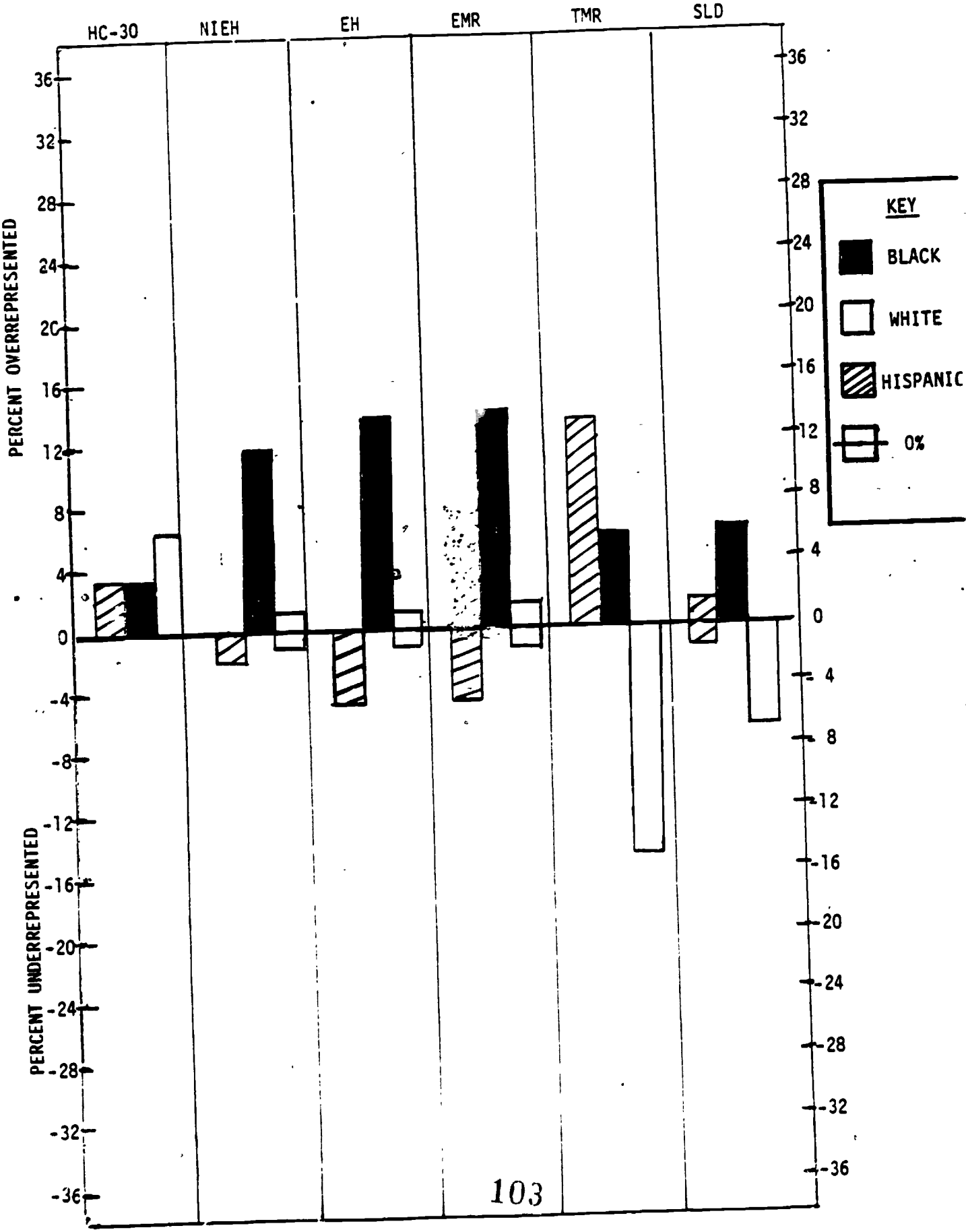
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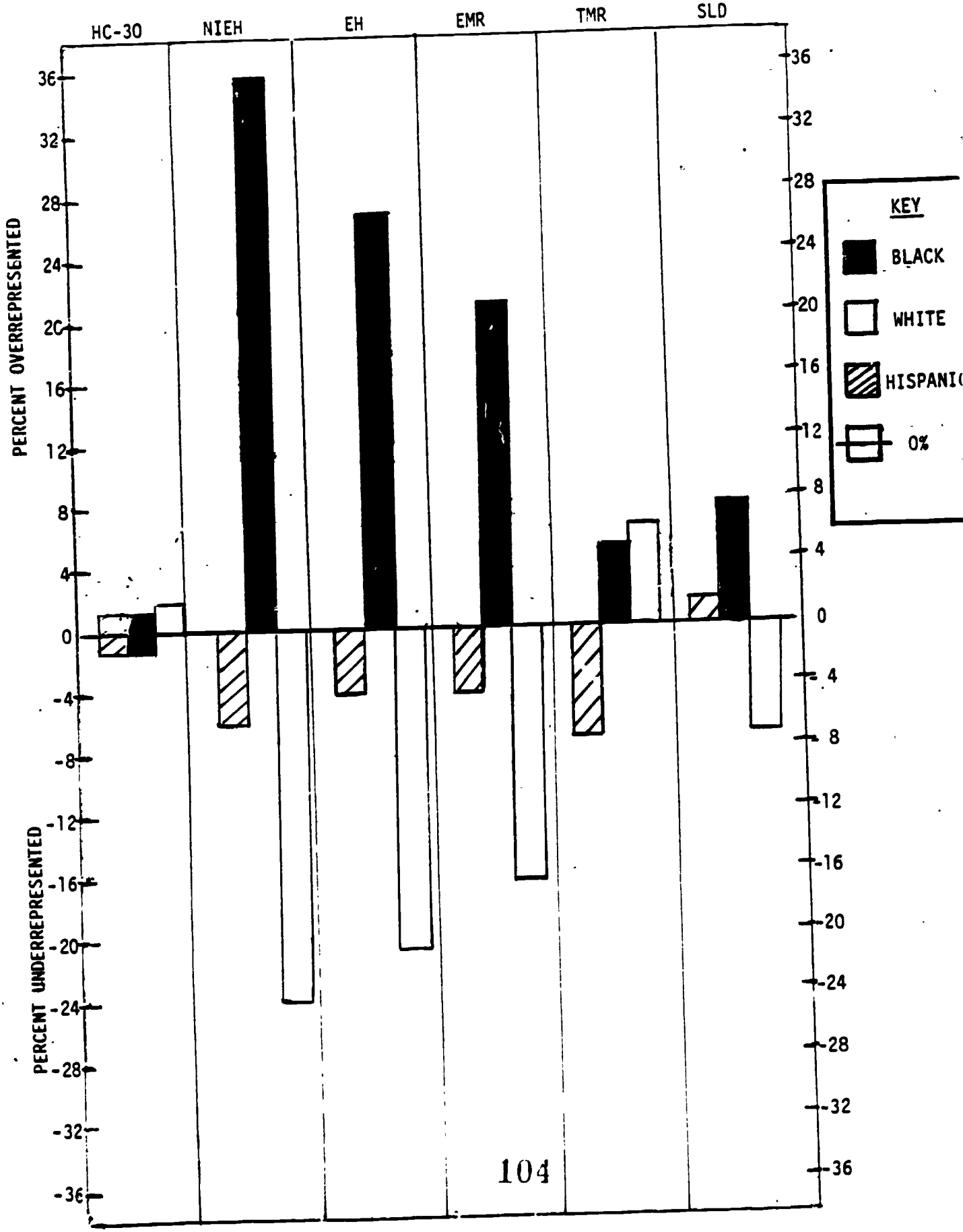
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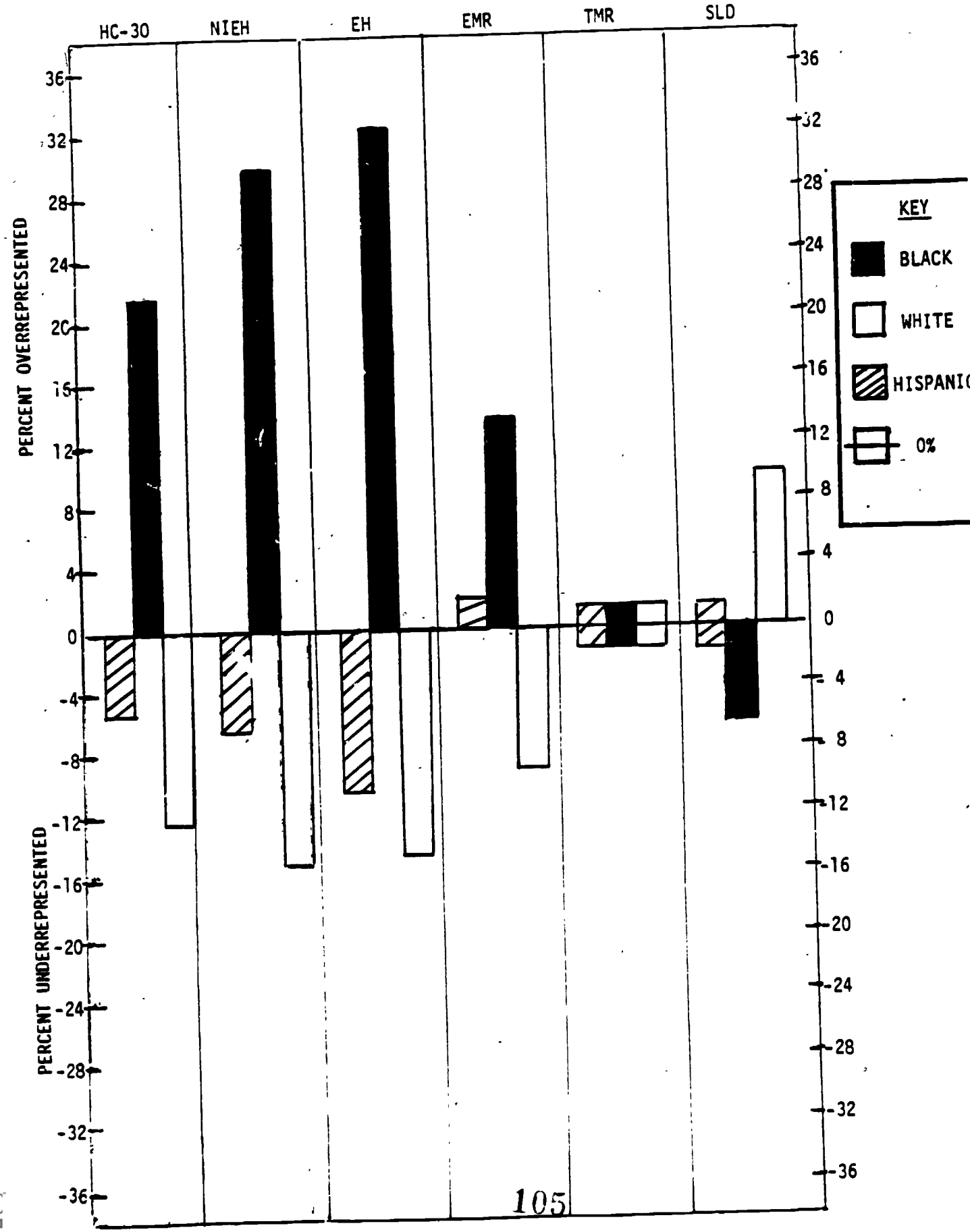
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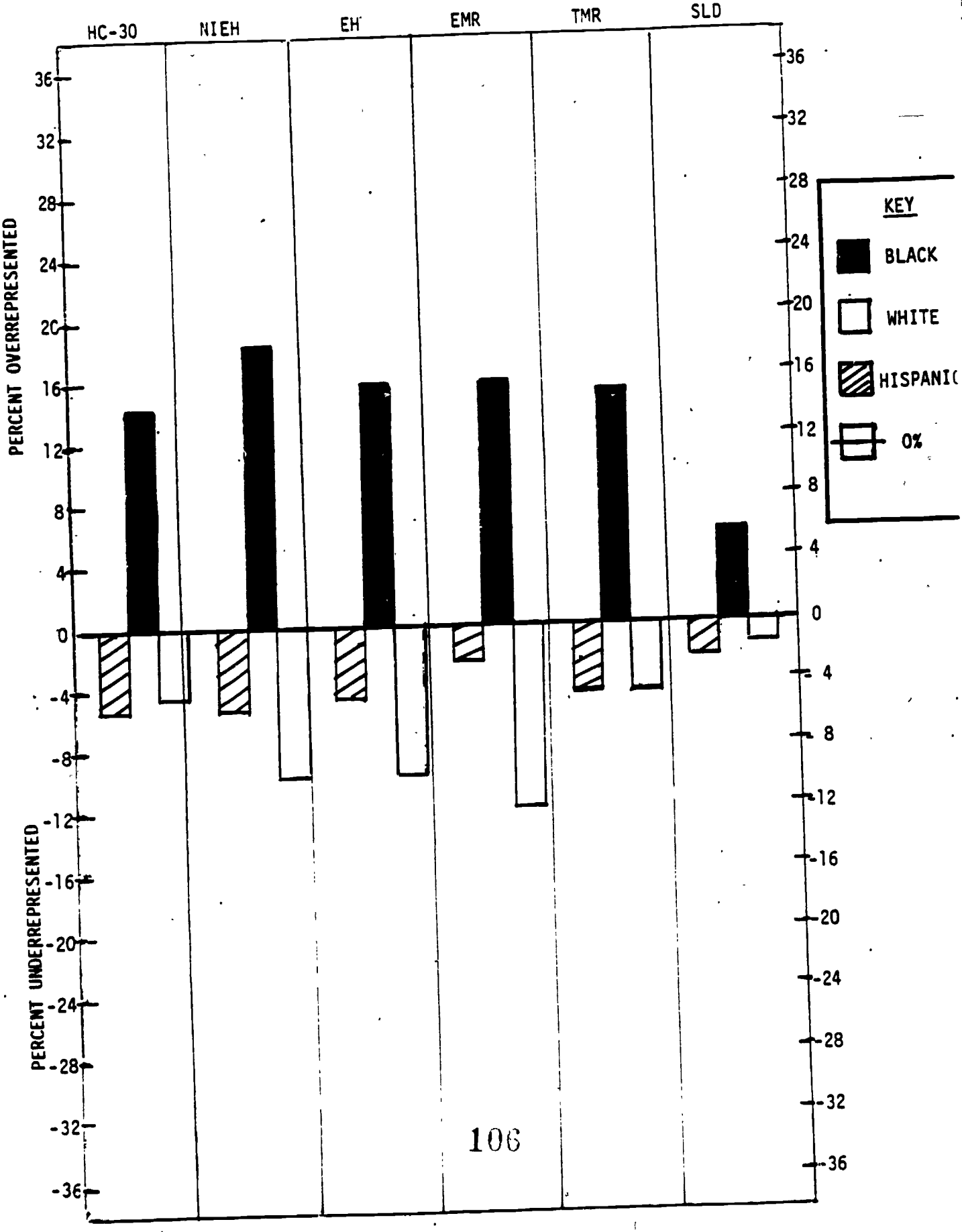
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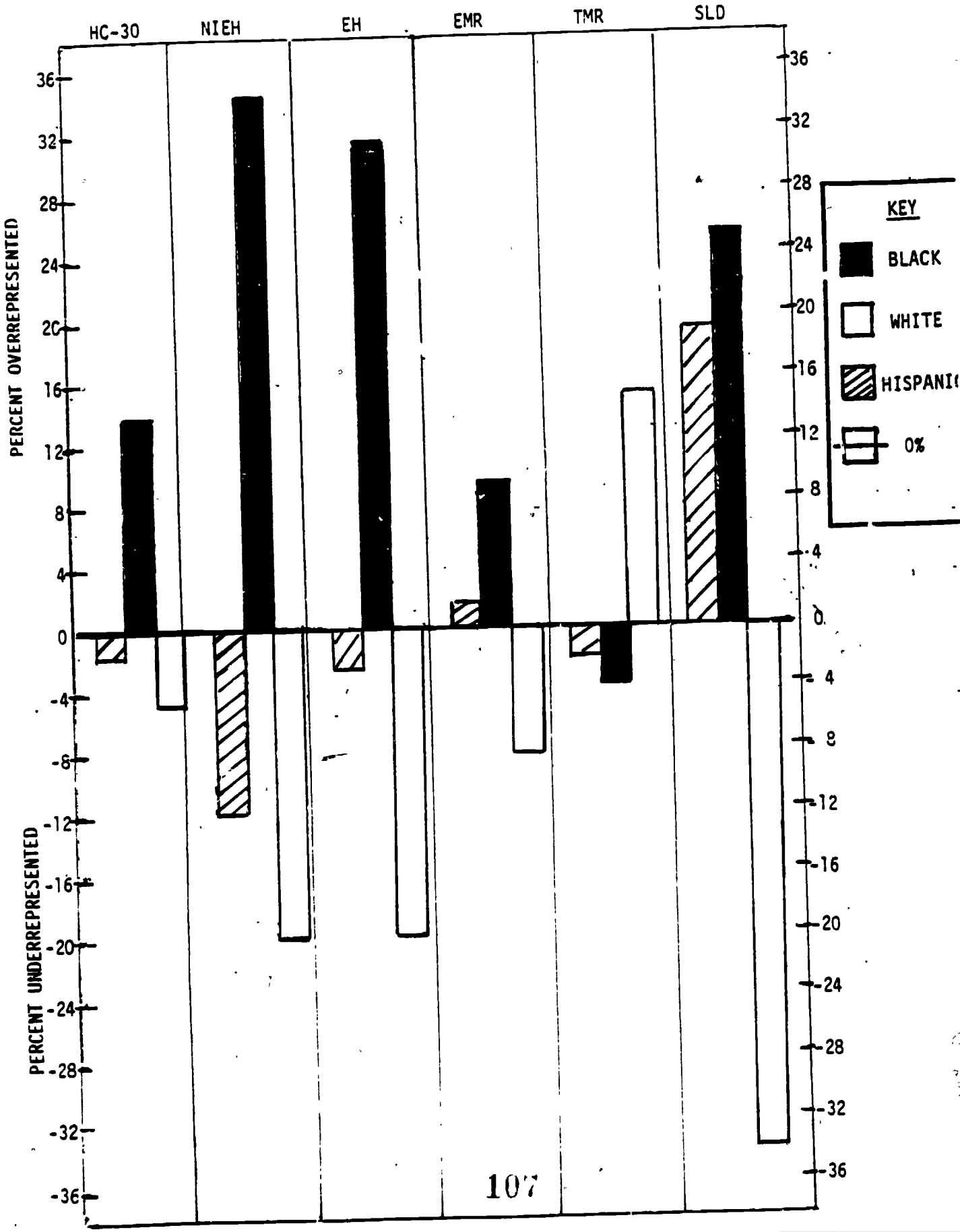
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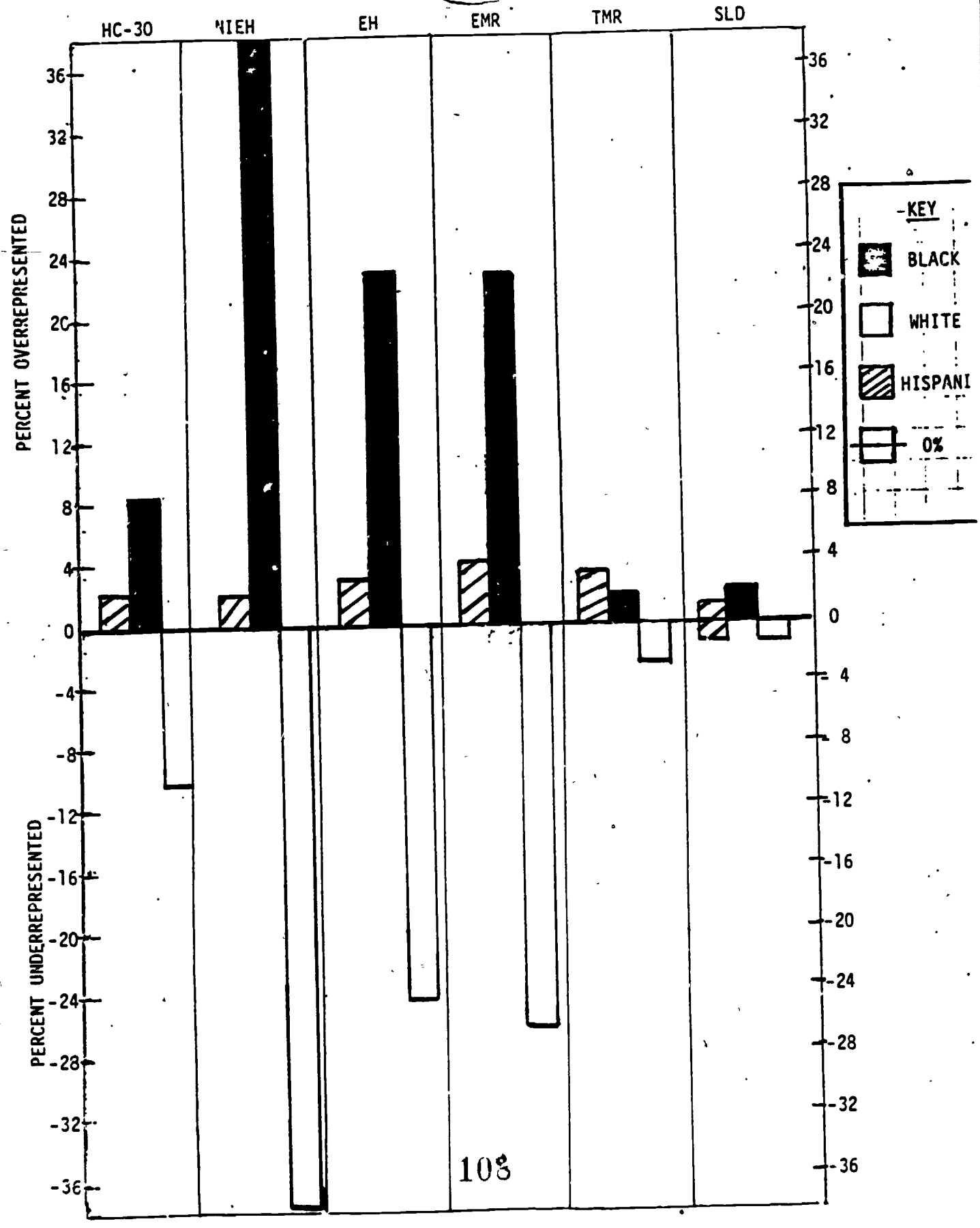
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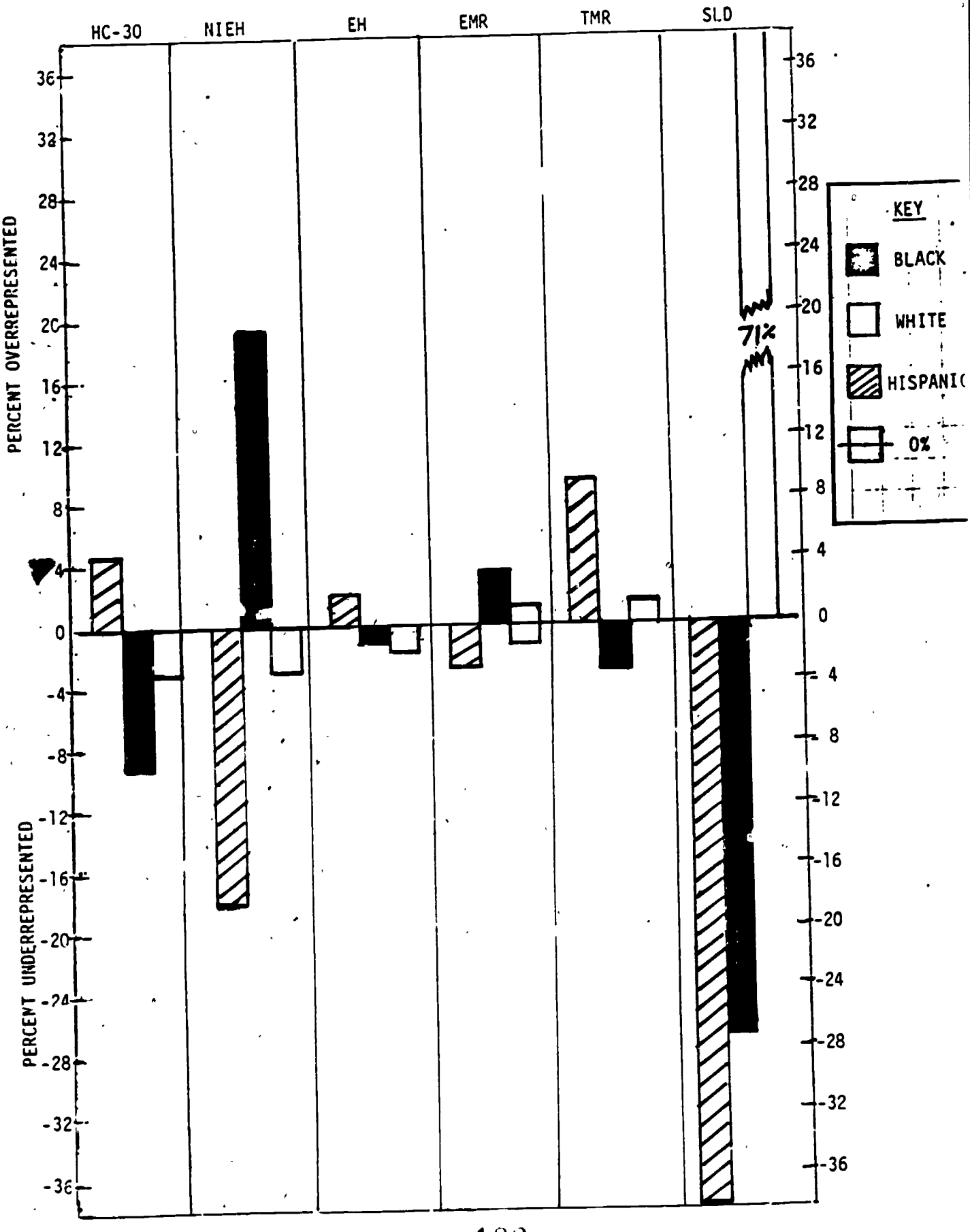
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